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Working Paper 270

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### **Published paper**

Sanderson, I. (1988) *The Impact of Central Government Policies on Local Authorities' Transport Expenditure and Provision: 4. The Maintenance of Local Roads*. Institute of Transport Studies, University of Leeds. Working Paper 270

THE IMPACT OF CENTRAL GOVERNMENT POLICIES ON LOCAL  
AUTHORITIES' TRANSPORT EXPENDITURE AND PROVISION:

4. The Maintenance of Local Roads

Ian Sanderson

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## 1. Introduction

### 1.1 Background

This report presents results from the third stage of a research project, funded by the Rees Jeffreys Road Fund, the aim of which is to assess the impact of recent changes in central government policies and powers in relation to local government finance upon local authorities' transport expenditure and outputs, and upon their ability to address effectively local transport problems and needs.

This is the fourth in a series of Working Papers on this research. The first Working Paper (Sanderson, 1988a) reviewed relevant changes in central government policies and financial control mechanisms since 1979 and identified major research issues. The second Working Paper (Sanderson, 1988b) presented results from an analysis of trends over the period since 1979/80 in local authorities' transport expenditure relative to the Government's spending plans and provisions, attempting to identify impacts of central government policies and controls for more detailed examination.

This more detailed examination has been undertaken on the basis of information provided by a sample of English local authorities. A third Working Paper (Sanderson, 1988c) presented an analysis of developments in respect of local road construction and improvement since 1985/86, when Transport Supplementary Grant (TSG) was restricted to supporting capital expenditure on roads of 'more than local importance'. That paper examined the operation of the TSG system in the context of wider systems for the control of local authorities' capital spending.

The present Working Paper examines local authorities' recent record in respect of the maintenance of local roads in the context of changes in central government policies and financial control systems and constitutes the final piece of substantive research for this study.

### 1.2 Research Issues

There is growing concern about the condition of local roads in this country. Indeed, expressions of concern about deteriorating roads have been emanating for several years from local authorities and their Associations, from organisations representing road users and from members of Parliament. In 1983 the House of Commons Transport Committee (1983) reported on an enquiry into the road maintenance issue; the following is representative of their conclusions:

"... there is real cause for concern about the present condition of the network of non-principal and unclassified roads, and ... necessary remedial work is being prevented by financial constraints ... We believe that there is an urgent need for some increase in the funds available for local road maintenance." (ibid. para 46)

The same Committee again highlighted the problem two years later:

"Lack of adequate maintenance is storing up problems for urban principal roads which are important traffic arteries playing an essential role in the economic life of urban areas while local roads play an equally important role in the rural community."

(House of Commons Transport Committee 1985 para 26)

The House of Commons Committee identified the level of funding from central government as a key issue and called for an immediate increase of 10% in such funding. The British Road Federation sees the issue rather differently:

"Local roads in town and country are inadequate and often badly maintained. BRF does not believe that this is generally the wish of local highway authorities but rather a reflection of the unsatisfactory state of relations between themselves and Government. At the heart of the problem lies a complex and unsatisfactory system of local government finance."

(British Road Federation, 1987, p. 1)

What is needed, in BRF's view, is reform of the system of local government finance particularly in relation to the treatment of local transport expenditure.

The Government acknowledges the problem of deteriorating local roads but sees the issue primarily in terms of the response of local authorities. For example, the 1988 Public Expenditure White Paper refers to:

"... a backlog of maintenance resulting from recent severe winters and traffic growth ... Many local road bridges are now also in need of repair and strengthening to cope with increased traffic levels."

(H M Treasury, 1988, p. 133)

In the Government's view the problem is that "... local authorities are not according road maintenance sufficiently high priority ..." for the resources which are available (ibid).

The deterioration over the years in the condition of local roads has been measured objectively by the National Road Maintenance Condition Survey, an annual survey conducted under the auspices of the Standing Committee on Highway Maintenance (1987A). The 1986 Survey concluded that:

"In 1986 condition overall was worse than that in 1985. Up until 1980 there was a trend towards improvement. Since then condition has deteriorated. The net result is that condition in 1986 was significantly worse than in 1977." (ibid, p 3).

Consensus on the facts of deteriorating road conditions clearly is not matched, however, by consensus on the causes and, therefore, the solutions. As the viewpoints outlined briefly {above indicate, the problem can be seen in terms of the level of central government funding, the priorities of local authorities in the allocation of available resources between services, or more widely in terms of the broader system of local government finance and central-local relations. In the present debate the emphasis tends to be placed more on the first two of these factors. Thus, a recent study by the Audit Commission (1988A) emphasises the need both for an enhanced expenditure provision in real terms by central government and for an increased priority by local authorities to expenditure on maintenance. In fact, the Audit Commission leans towards the Government's perspective on the problem, emphasising the failure of authorities collectively to spend up to the Government's expenditure provision and inefficiencies in the use of resources as major causes of the deteriorating condition of local roads.

The aim of our research is to contribute to the understanding of the reasons for the deterioration in local roads, for the inability of local authorities to maintain their roads to standards which are perceived widely as 'satisfactory' and attainable given the national availability of resources and competing demands thereon. In our view, such an understanding can be obtained only within a broader perspective which refers to the extent to which local authorities have been able to meet the whole range of problems and needs which they face in their areas. A comprehensive analysis along these lines is not possible within the context of our study but such a perspective conditions our approach and conclusions. The main implication for our analysis is the need to examine the impact of the broader systems for central government control over local authority spending. It is in such a context that we consider the implications of changes affecting the financing of local road

maintenance and, in particular, the effect of the reform of the Transport Supplementary Grant system in 1985/86 which discontinued support from this source for road maintenance.

### 1.3 Structure of Report

This report is structured as follows. In Section 2 we examine the nature and scale of the road maintenance problem and identify the main factors responsible for deteriorating road conditions. Section 3 analyses the record of local government over the past decade in responding to the road maintenance problem in the context of changes in central government policies and controls, attempting to identify the reasons for the inability of authorities to maintain their roads to satisfactory standards. In Section 4, we examine proposals which have been put forward to address the problem in the light of our analysis and develop our own proposals. Section 5 summarises the analysis and conclusions.



## 2. The Scale of the Road Maintenance Problem

### 2.1 Introduction

In this section we analyse the nature and scale of the road maintenance problem with which local authorities have to deal as one of their major functions as highway authorities. Need for maintenance in expenditure terms is a function of the amount of work required to bring roads up to the required standards and the cost of carrying out such work. The problem facing local authorities can be analysed, therefore, in terms of factors increasing the amount of work required and factors affecting the cost of undertaking a given amount of work. This is the approach adopted in Section 2.2. Evidence of the extent of deterioration in local road conditions is available at national level from the National Road Maintenance Condition Survey (NRMCS) and at local level from local authorities' own surveys. Results from the NRMCS and from selected authorities are summarised in Section 2.3. Poor road conditions impose additional costs both in economic terms and through reduced safety standards and such costs are discussed briefly in Section 2.4. We conclude the section by identifying the main dimensions of the approach to understanding why local authorities have been unable to keep pace with the increasing scale of the problem as a basis for the analysis in Section 3.

### 2.2 Factors Behind the Road Maintenance Problem

As indicated above we can analyse the problem facing local authorities in terms of two sets of factors. First, certain developments have placed increasing demands on authorities in terms of the amount of maintenance work (output) which is required to keep roads at a given standard of repair. These include growth in road networks, increasing amounts of traffic, particularly heavy goods vehicles, severe winter weather and the activities of public utilities. The second set of factors affects the cost to authorities of undertaking a given amount of maintenance work; relevant considerations here include the cost of labour, materials, energy and capital equipment particularly in terms of the output of a unit of maintenance work.

Our analysis covers the period since the beginning of the present decade but at the outset it should be stressed that road conditions at the turn of the decade had already been affected by cuts in maintenance expenditure during the latter part of the 1970s introduced as part of the broader programme of cuts in local government spending. There is some dispute about the extent to which the condition of local roads deteriorated during the late 1970s. NRMCS (1987) results indicate a general improvement in condition between 1977 and 1980 but many local authorities reported a reduction in standards. The issue was

considered by the House of Commons Transport Committee in the early 1980s (op cit 1983) which concluded that the NRMCS did not accurately reflect the deterioration in standards. The reasons for this included the fact that authorities had tended to cut non-structural maintenance first and to adopt lower cost remedial treatments for road surfaces, the adverse effects of which would become apparent only in the longer term (ibid. paras 35-43).

Indeed, some authorities were unequivocal about the deterioration in maintenance standards during the late 1970s. An example is Avon County Council:

"The Government's policy of effecting a progressive reduction in real terms, in maintenance expenditure over recent years has resulted in a serious reduction in maintenance standards with a consequent effect upon the highway network throughout the Country."<sup>1</sup>

In evidence to the House of Commons Transport Committee, the Associations of County and District Councils (1983 para 2.3) argued that:

"For almost a decade, due to the decision to reduce public spending, there has been a decline in the financial resources available for highway maintenance ... which has engendered expressions of concern from a wide body of interests that the condition of the network was deteriorating and would eventually result in the need for a massive input of funds to restore the roads to an acceptable condition."

Against this background we can now consider in rather more detail the factors responsible for increasing the demands on local authorities in terms of road maintenance work. The first factor is the constantly-increasing length of road which requires maintenance. The length of public local road (i.e. excluding trunk roads) increased by nearly 18000 km or 6% in Great Britain between 1976 and 1986 (Department of Transport, 1987b).

Of course, new residential, commercial and industrial developments on green-field sites increase the length of public road requiring maintenance. However, developments within existing urban areas, associated with regeneration schemes, can also result in increased maintenance needs if access roads to such developments have to be maintained to higher standards than they would otherwise be in order to accommodate additional traffic.

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1. see section 'Notes on the text'

Also of relevance here is the increase in maintenance burden arising from delays which local authorities have experienced in their roads capital programmes due to capital expenditure restraints operating during the 1980s.<sup>2</sup> Thus, where new schemes replaced or relieved existing roads with sub-standard pavements and drainage delays in capital programmes could result in additional maintenance expenditure to patch and repair the existing roads. There is evidence of this problem in Kent and Cleveland.<sup>3</sup> Similar consequences derive from delays to schemes for substantial reconstruction of roads financed from capital which have been experienced by some authorities in more recent years due to the operation of the capital expenditure control system.<sup>4</sup>

The second major factor behind increased maintenance needs is the increase in traffic using local authority roads and, in particular, the increase in heavy goods vehicles using roads not suited to them. Between 1976 and 1986 the volume of motor vehicle traffic increased by 35%.<sup>5</sup> However, within this total the growth in heavy goods vehicle traffic is of greatest significance because such vehicles impose the most damage upon roads. Between 1976 and 1986 total HGV traffic increased by 11%. However, mileage operated by the largest HGVs (articulated with four or more axles) increased by 54% over the same period. Most of the mileage run by such vehicles is on motorways and trunk roads (83% in 1986) but, nevertheless, damage by HGVs is a significant problem on local authority roads.<sup>6</sup>

A large proportion of local authority roads is not constructed to modern 'formal design' and therefore does not have the structural capacity to withstand heavy axle loadings. The structural damage to road construction by vehicles is generally accepted to be proportional to the fourth power of the axle loading but the damaging effects may be up to the sixth power in locations close to bridge abutments and viaduct joints and on weak pavements.<sup>7</sup> As average axle weights of commercial vehicles have increased so has the wear caused by such vehicles to roads and bridges, estimated to cost public funds over 600 million per year by 1986.<sup>8</sup>

The damage from heavy vehicles can be particularly severe on non-principal and on rural and urban unclassified roads. As Avon County Council have pointed out:

"... these vehicles are accessing industrial premises in urban areas, and farms and transport businesses in rural areas over roads that have neither the geometry, nor the width, nor the construction to accommodate them. This is leading to a serious problem in respect of safety where these vehicles are destroying pavements where they override on bends and park on the footways in narrow roads in urban

areas. Similar safety problems arise in the rural areas where these vehicles are destroying the edges of the roads not only on bends, but also along the length of the roads leaving a dangerous ragged upstand at the road edge."<sup>9</sup>

In addition, there is evidence that the growth in HGV traffic has contributed to damage to mains and sewers located beneath roads and footways and also to damage to bridges.<sup>10</sup> There was particular concern on the part of local authorities about the impact on bridges of the increase in maximum permitted weight of vehicles to 38 tonnes in 1982 and in 1983 the Department of Transport introduced a new Code of Practice for the assessment of highway bridges and other structures under which bridges had to be subjected to a load capacity assessment. However, there is evidence that capital expenditure restraints have had an adverse effect on authorities' capacity to undertake necessary bridge repair and strengthening works in recent years.<sup>11</sup>

The problem of damage to roads from HGVs is compounded by vehicle overloading or uneven loading which places excessive weight on any one axle. Work undertaken by TRRL and the University of Newcastle upon Tyne has demonstrated the widespread practice of overloading and bad load distribution.<sup>12</sup> Overloaded axles impose a disproportionate amount of wear on roads and bridges. A TRRL investigation on the A1 found that about 3% of HGVs were overloaded but these vehicles accounted for 33% of total structural wear.<sup>13</sup> Clearly, the prevention of overloading offences would be highly cost effective but it has been argued that resource restraints have prevented County Trading Standards Departments from taking a more active role.<sup>14</sup>

A third major factor contributing to increased demands upon local authorities to respect of road maintenance is the work of the so-called Public Utilities or Statutory Undertakers (e.g. Gas, Electricity, Water, Post Office, British Telecom) who have statutory powers deriving from the Public Utilities Street Works Act 1950 (PUSWA) to excavate the highway and footways to install or gain access to their services. It has been estimated that the utilities make about two million different excavations in the highway nationally every year and for many years local authorities have voiced serious concern about the deterioration in road conditions deriving from poor quality temporary reinstatements of the utilities.<sup>15</sup>

Under the 1950 Act the utilities have an obligation to carry out reinstatements to a reasonable standard. Problems with the quality of reinstatements led to the publication in 1974 of a Model Agreement by the Department of the Environment to govern relations between utilities and local authorities and to improve the standard of reinstatements, but adoption of the Agreement has been patchy.<sup>16</sup> From the local authorities' perspective the

problem lies in two characteristics of the utilities. First, they are changing rapidly from their traditional statutory position as public authorities to commercial undertakings with profit-oriented objectives, a process obviously strengthened by privatisation. Second, the utilities have no interest in the quality of the highway:

"Local supervising staff employed by the utilities have little or no training in highway engineering and neither the time nor the knowledge to supervise reinstatements properly. Most works are executed by contractors directly appointed by and responsible to the Public Utilities under lowest tender procedures. Highway authority inspectors are limited in number not only by the amount which the utilities will pay towards the cost of them, but by constraints on local authority expenditure affecting resources and staffing levels. Therefore neither the utilities' own supervisors nor the highway inspectors are able separately or together to provide sufficient control over the reinstatement activity to secure that it is done properly."<sup>17</sup>

Excavations in the highway disturb the original structure and no matter how carefully the reinstatements are done roads become more prone to premature failure. Poor quality reinstatements exacerbate the problem. Poor compaction of backfill material results in a weakening of the road structure in the vicinity of the opening and ingress of water can cause foundation failure. In addition safety problems are created for road users and additional damage caused to vehicles. The problem is particularly acute in urban areas which have high densities of underground equipment, and is exacerbated by the impact of heavy goods vehicles.

Local authorities argue that the activities of the utilities impose considerable additional costs which are not covered by reimbursement arrangements. For example, as Sheffield City Council argues:

"The costs charged to Statutory Undertakers for reinstatements do not cover the situation when it is necessary to carry out extensive works to restore the highway which has been damaged as a result of successive activities by Statutory Undertakers over a number of years. These works represent a considerable drain on limited resources."<sup>18</sup>

Cornwall County Council has estimated that more than half of its programme of patching and strengthening of urban roads is necessary as a result of excavations by the utilities and also points to the additional burden of maintenance on minor roads which must be used as long-term diversions in some cases.<sup>19</sup>

Local authority concern about this problem was such that in 1983 the House of Commons Transport Committee concluded:

"It is ... clear that many highway authorities, particularly those in urban areas, believe that the 1950 Act is no longer providing a satisfactory basis for regulating the excavations of the public utilities."<sup>20</sup>

The Committee argued that there was a need to review arrangements for reinstatements, for liaison between local authorities and the utilities and to review the obligations of the utilities for costs of damage beyond the perimeter of the actual excavation and due to settlement over a realistic time period.<sup>21</sup> The Government subsequently set up a Committee under the Chairmanship of Professor M R Horne to review the 1950 Act. The Committee recommended a fundamental revision to the 1950 Act with the unambiguous responsibility for reinstatement to agreed national standards being placed on the utilities and new systems for monitoring standards and achieving co-operation and co-ordination between the utilities and local authorities.<sup>22</sup> The Government accepted most of the Horne Committee's recommendations and has issued a new Code of Practice for the work of Statutory Undertakers. However, two areas of concern remain in relation to the prospects for an improvement in the situation. First, with the extension of the privatisation programme the utilities are becoming increasingly subject to profit-oriented objectives and this could produce pressures to reduce costs on excavation works. Second, in the light of such pressures the issue of enforcement of standards for reinstatements takes on considerable importance and in the absence of an effective and realistic performance specification which can be enforced local authorities may continue to be burdened with significant additional costs due to utility excavations.

A fourth factor which places an additional maintenance burden upon local authorities is severe winter weather. Such weather imposes additional direct costs due to gritting and snow clearing operations, but also substantial indirect costs due to damage to roads, particularly from frost. When frost penetrates into the sub-soil underneath a road 'frost-heave' can occur after a thaw causing severe damage, particularly to minor roads with fairly thin pavement structures lying over frost-susceptible sub-soil such as chalk or clay. The other major form of frost damage occurs when snow or water enters the road surface through cracks and frees promoting the creation of potholes. This can be a particularly serious problem at the edges of temporary reinstatements made by the statutory undertakers which are susceptible to frost penetration.<sup>23</sup>

During the past decade harsh winter weather has been experienced in 1978/79, 1981/82, 1984/85 and 1985/86, all of which imposed considerable frost damage on roads thus accelerating the deterioration in standards. The winter of 1981/82 was particularly severe generating substantial additional costs for local authorities. For example, Avon County Council estimated that the total cost attributable to the winter weather up to the end of March 1982 was some 2.25 million compared to a normal winter maintenance budget provision of 0.6 million.<sup>24</sup> Nottinghamshire County Council had to supplement the winter maintenance fund for salting and snow clearing by 450,000, this money being diverted from funds originally allocated to structural maintenance. In addition, extra expenditure on damage repair work (patching pothole repair, resurfacing and foundation construction) amounted to about 800,000 net of betterment.<sup>25</sup> Cheshire County Council estimated the cost of structural damage at some 3 million.<sup>26</sup> A similar figure was placed on the damage to Cheshire's roads due to the 1984/85 winter.<sup>27</sup>

The Government has operated a scheme of 'Special Financial Assistance to Local Authorities following an Emergency' which involved the reimbursement by Government of 75% of eligible expenditure beyond the product of an inclusive lp rate. However, the conditions for eligibility for grant were highly restrictive and few authorities qualified for assistance following the 1981/82 winter. Thus, the Association of County Councils estimated that special assistance amounted to less than 10% of the additional cost of snow clearance and frost damage.<sup>28</sup> Following consideration of this issue by a joint Department of Transport/Local Authority Association Working Party local authorities used the TPP as a means of making bids for TSG to allow them to make good damage caused by severe winters. With the ending of TSG support for maintenance expenditure, however, authorities normally receive no special provision to rectify damage caused by severe winter weather, and any additional expenditure required must either be at the expense of other maintenance work, at the expense of other services, or it will result in a loss of block grant, as an authority's total expenditure increases.

A fifth source of increasing maintenance workload for local authorities is the growth in the use of traffic management and regulation measures. Such measures produce a requirement to maintain an ever-increasing stock of traffic signs and signals, pelican crossings, pedestrian guardrails, road markings and studs etc. Safety considerations and legal requirements mean that high standards of maintenance have to be sustained. Obviously, this source of workload is particularly important in urban areas.<sup>29</sup>

The use of traffic management strategies has increased, in part, due to cuts in road building programmes due to capital

expenditure restraints. This point has been made by Avon County Council:

"with the reduction in the amount of finance available for new construction and improvement, there has been an increase in the number of traffic management schemes introduced in an attempt to make better use of the existing highway network. Such schemes have inevitably diverted traffic onto roads which were not constructed to cater for the increased traffic flows."<sup>30</sup>

The implications of this trend for local authorities' maintenance workload has been expanded upon by the Associations of County and District Councils (1983 para 6.4) as follows:

"One aspect of the problem which is often overlooked is that using traffic management techniques to optimise the capacity of the whole network, and in urban areas by the re-routing of right-turning traffic, can lead to structural deterioration of those minor links in the network hierarchy which have been constructed to a lower standard of pavement design. Failure of such roads and the utility services buried under them is a concomitant feature of this form of 'optimising the network' traffic management."

Finally, it is evident that local authorities are facing increasing demands on maintenance resources from pressures to pursue objectives relating to environmental improvement, conservation and equal opportunities. For example, pedestrianisation schemes create special problems of access and methods which can increase maintenance costs.<sup>31</sup> Maintenance in designated conservation areas and areas of high amenity may have to employ special materials which are costly both to purchase and subsequently to maintain.<sup>32</sup> Concern about public safety and crime is producing pressure for higher standards of street lighting.<sup>33</sup> Measures to promote equal opportunities, for example, for disabled people, place additional demands on maintenance budgets for improved footway surfaces and special pedestrian facilities.<sup>34</sup>

Consequently, there are a large number of factors which are responsible for increasing maintenance needs and the scale of problems faced by local authorities. Moreover, while the demand for maintenance work has increased, so has the cost of undertaking such work. We have already referred to increased costs of maintenance in conservation areas but more significant are general increases in the cost of factor inputs, particularly labour, materials and energy which together constitute the major elements of total maintenance costs. The increase in costs of maintenance factor inputs is reflected in the Department of Transport's Maintenance and Lighting Price Index which increased between 1979 and 1987 by 89% compared with an increase of 72% in the Retail Price Index (and 73% in GDP at market prices).<sup>35</sup>



Taking into account this degree of inflation, the Government's expenditure provision for road maintenance declined significantly in real terms during the early 1980s (- 11% between 1979/80 and 1981/82) and subsequently increased only modestly during the mid-1980s (+ 6% between 1981/82 and 1985/86).<sup>36</sup>

The clear implication for local authorities in such circumstances was that substantial increases in efficiency would be required if they were to address increasing maintenance needs and problems effectively within the level of resources implied by the Government's spending plans. However, important elements of total costs are effectively beyond the control of local authorities. An analysis of maintenance costs by Cornwall County Council in 1979 indicated that for all structural maintenance materials constituted 20% of total costs, labour and on-costs 55% and plant and haulage 25%. However, within this total, the proportion of materials cost in resurfacing and surface dressing was significantly higher at 60-65%.<sup>37</sup> Cornwall County Council updated the analysis in 1985 revealing that the price of materials used in resurfacing and surface dressing (coated stone and bitumen binder) had increased between 1981 and 1985 by some 57% compared with increases in the price of labour and plant at about the general inflation level of 23%.<sup>38</sup> This large increase in the cost of material outside the control of local authorities, would appear to be primarily responsible for inflation in maintenance costs over this period (c. 30%) outstripping the general rate of inflation.

The cost of energy (primarily for street lighting) is also beyond the control of local authorities. Again, in many authorities it constitutes a significant proportion of the total maintenance budget; examples in 1986/87 are Cheshire 9%, Nottingham 9%, Cleveland 8%, Hereford and Worcester 6% and Norfolk 5%.<sup>39</sup> The large increases in the cost of energy in the late 1970s created particular difficulties for local authorities at a time when expenditure restraints were being imposed and resulted in programmes for conversion to more energy-efficient street lighting systems. The position reported by Cheshire County Council in 1979 is typical:

"Within a reducing level of overall maintenance expenditure in recent years the cost of maintaining street lighting, and in particular of providing energy, has risen disproportionately. In an effort to minimise expenditure on maintaining street lighting, changes to street lighting systems are being made to convert to more economic light sources e.g. eliminating all remaining tungsten filament lamps. Energy costs have risen faster than the allowances for inflation and in 1980/81 it is estimated that street lighting will account for 13% of the total highway maintenance allocation. A stand has therefore had to be

made and a new policy with a reduced level of service has been instituted."<sup>40</sup>

As a result of conversion programmes many authorities have achieved significant savings in energy costs and a decline in their proportion of the total maintenance budget. For example between 1981/82 and 1986/87 this proportion declined in Nottinghamshire from 11% to 9% and in Cleveland from 11% to 8%.<sup>41</sup> However, such programmes have been dependent upon the availability of capital finance and have therefore been subject to the capital expenditure restraints imposed by the Government over the years. There is some evidence that such restraints have slowed down conversion programmes and the consequent potential for revenue expenditure savings.<sup>42</sup>

Such increases in costs outside the control of local authorities have resulted in greater pressure to reduce other elements of cost, particularly labour costs. Prior to 1980 the wages of local authority manual workers were increasing in real terms but between 1980 and 1982 earnings declined by 6% in real terms (see Figure 1). The 11% real increase in manual workers' earnings in 1980 caused local authorities some difficulties at a time of Government restraint of their expenditure and Figure 1 also shows the decline in local authority workers in the 'construction' category which was particularly marked between 1979 and 1981 (10%). The number of workers continued to decline but at a much lower rate between 1981 and 1985; during this period earnings broadly kept pace with inflation and local authority current spending was also relatively constant in real terms. However, road maintenance expenditure, as we have seen, declined by some 6% in real terms, implying a reduction in labour costs via reduced manpower.

Of course, the response of local authorities in terms of manpower reductions will have varied considerably according to local circumstances. Two examples of authorities with very different circumstances in terms of political control, socio-economic conditions and road maintenance needs and problems are Cleveland and Hereford and Worcester County Councils. Between 1981 and 1985 the manual workforce of Cleveland's Surveyor and Engineer's Department declined by 9% as road maintenance expenditure was held relatively constant in real terms while manpower engaged on highway maintenance employed by Hereford and Worcester County Council declined by 26% as expenditure fell, being some 9% lower in real terms in 1985/86 than in 1981/82.<sup>43</sup>

Faced with expenditure restraints and increases in materials and energy costs, and in spite of reductions in labour, it is clear that many authorities had to reduce or modify their maintenance work output over the period to 1985/86. We will consider the nature of authorities' responses, in terms of both policy and

outputs, in Section 3 below. However, at this stage it is worth summarising in broad terms the nature of the typical response. In general, authorities cut back on routine/cyclic maintenance (i.e. grass cutting, sweeping, gully emptying and traffic sign maintenance) to levels which were regarded as irreducible minima in relation, primarily, to safety considerations. Once this constraint had been reached, additional cuts had to fall on structural maintenance. The implications of this have been summarised by Cheshire County Council as follows:

"As the amount of money available for structural maintenance has fallen two things have happened. Firstly resources have had to be diverted from a planned programme of structural maintenance to deal with problems as they occur. This has led to localised patching which is an inefficient, albeit unavoidable, use of manpower and equipment. Secondly, the proportion of available money spent on surface dressing rather than reconstruction has increased. Surface dressing is, of course, a valuable technique which can extend the life of a road by four or five years. However, surface dressing does nothing to rectify underlying structural problems or to provide increased strength to meet continually increasing axle loads. The virtual exclusion of reconstruction should only be considered as a temporary necessity since, if continued, it will result in further problems in a few years time. The County is at present living on its past investment in the basic structure of its highways but is doing nothing to replace that investment for the future."<sup>44</sup>

In this section, therefore, we have examined the factors behind the road maintenance problem faced by local authorities. We now go on to summarise briefly evidence of deterioration in road conditions and the implications of this deterioration.

### 2.3 Evidence of the Deteriorating Condition of Local Roads

In this section we consider two main sources of evidence on trends in the condition of local authority roads. The first is the National Road Maintenance Condition Survey (NRMCS) which is based on a national sample of road sites. The second is our own sample of local authorities which provides more detailed information on indicators of deteriorating conditions.

The NRMCS was established in 1976 by the Department of Transport and the Local Authority Associations as a result of concern about the long term effects of reductions in road maintenance expenditure and about the absence of any objective measures of condition (Associations of County and District Councils 1983 para 2.5). The annual survey is operated through the Standing Committee on Highway Maintenance and covers a sample of highway

sites in most local authority areas in England and Wales on seven road classes: trunk, urban principal, urban classified, urban unclassified, rural principal, rural classified and rural unclassified. The survey obtains visual evidence of the carriageway of 'blacktop' roads, deflection measurements of underlying carriageway strength and visual evidence of footway defects (Standing Committee on Highway Maintenance 1987a).

The results of the survey over the period 1977-1986 are summarised in Figure 2. It can be seen that between 1977 and 1980 the survey produced evidence of an improvement in the condition of local authority (non-trunk) roads particularly urban principal and unclassified and rural principal and classified. However, as indicated in the previous section there was some dispute during the early 1980s about the validity of these findings, the House of Commons Transport Committee (1983, paras 35-43) supporting local authorities' arguments that the Survey did not pick up an underlying deterioration in road conditions which was masked by an increased use of surface treatments. This view has been vindicated to a degree by the Survey's results since 1980 which show a progressive deterioration in the condition of non-trunk roads, particularly urban principal and unclassified and rural unclassified roads. Important types of defect noted were wheeltrack cracking and rutting on urban principal roads and edge deterioration on rural unclassified roads indicating the influence of damage caused by heavy goods vehicles.<sup>45</sup>

The results of the deflection measurements give an indication of future structural maintenance needs on principal roads by estimating the residual life of the carriageway. The Survey indicates that urban principal roads are in the worst condition with some 20% having residual lives of less than five years, and just over 30% less than 10 years. This implies a need for strengthening of about double the actual current rate of work to avoid further deterioration in condition (Standing Committee on Highway Maintenance 1987b). It is difficult to derive a measure of the additional work needed on non-principal roads from the deterioration in the 'Defects Index' measured by the visual survey. The index for these roads has been increasing on average by between 3% and 4% per annum since 1980 whilst between 8% and 10% of these roads has received treatment each year.<sup>46</sup> A simplistic answer would appear to be that this rate of treatment should be increased to about 12-13% p.a. However, some 90% of this treatment at present is surface dressing and this cannot be expected to cure many of the defects. Therefore, what is needed is a higher proportion of road length treated each year and an increase in the amount of strengthening and resurfacing within the total.<sup>47</sup>

The NRMCS is widely regarded as providing a good aggregate picture of trends in the condition of the country's roads if the results are analysed over a sufficiently long time period. However, at the level of individual authorities the results are subject to broad confidence limits. Many authorities carry out their own comprehensive assessments of road conditions and we can refer briefly to the results from selected examples. These fall into two categories. First, some authorities present results from NRMCS surveys as they apply to their own roads where the number of monitoring sites permits reliable conclusions to be drawn. Second, some authorities derive an estimate of the expenditure required, over and above current budget provision, to bring the highway network up to a particular standard.

An example in the first category is Cheshire County Council and Figure 3a summarises the results from NRMCS visual surveys comparing the trend in average road conditions in Cheshire with the national situation. The main feature is the very marked deterioration over the period 1980-83 indicating the adverse impact of the 1978/79 and 1981/82 winters on road structures subjected to a continual increase in heavy goods traffic. The Council has expressed particular concern about the increase in wheel track rutting on all roads (but particularly urban unclassified and all rural roads) since this is a visible indicator of structural weakness.<sup>48</sup> Figure 3a indicates that in spite of an improvement in 1984 the deteriorating trend has resumed in recent years. The Council concludes as follows:

"The conclusion to be drawn from these surveys is that the structural condition of the County's highways continues to give cause for concern. It follows that the level of investment in structural maintenance throughout the County has been substantially below the level really required in recent years even though additional funds were provided in the present and two preceding years. The only way to improve the situation is to increase substantially the expenditure on highway structural maintenance over a period of years."<sup>49</sup>

Kirklees Metropolitan Council also provide a local analysis of NRMCS results and estimate that some 24% of Class A and B roads and 32% of unclassified roads in Kirklees have a residual life of less than five years. At current rates of strengthening and resurfacing it is estimated that it will take more than five years to strengthen the roads known to have less than five years life in the best case (A roads) and over 100 years in the worst case (unclassified roads), even if the effect of further deterioration is not taken into account. An increase of 10% per annum in the structural maintenance budget is seen as necessary together with additional capital funds for major reconstruction schemes.<sup>50</sup>

The situation in the West Midlands has been examined by the West Midlands Regional Forum and it was found that the NRMCS results indicate that the condition of the Region's local authority roads is substantially worse than the national average, only the Northern Region having worse overall conditions. However, for principal roads the West Midlands displays by far the worst conditions in the whole country and this is linked to data which shows that the Regions roads' carry a higher proportion of goods vehicles than the national average.<sup>51</sup>

Dudley Metropolitan Council in the West Midlands provides a more detailed analysis in the second category vi. an estimate of the shortfall in current expenditure from that needed to achieve a particular standard. The assessment is undertaken on the basis of the MARCH (Maintenance Assessment, Rating and Costing of Highways) system of need assessment and Figure 3b illustrates the growing gap between assessed need and expenditure since 1984/85. In 1987/88 the shortfall of expenditure from need was estimated at 2.35 million compared with a total revenue budget for maintenance of 2.5 million, which was supplemented in 1987/88 by 1.4 million of non-prescribed capital receipts.<sup>52</sup>

Avon County Council undertake an annual survey of the condition of a random 10% of the highway network, including both carriageways and footways and estimate the cost, additional to the existing budget provision, of restoring the network to a 'basic minimum standard'. Figure 3c illustrate the trend in this estimated cost between 1977 and 1987, with the marked deterioration between 1980 and 1983 being consistent with the NRMCS results. However, most of the increase is associated with footway deterioration, carriageway costs fluctuating between 10-12 million (1986 prices). The total estimated cost of some 25 million takes no account of works required for drainage, structures, traffic signs, markings, street lighting, bus shelters etc. all of which are assessed as falling below nationally accepted standards. This cost estimate can therefore be compared with a present budgeted expenditure on carriageway and footway structural works of some 9 million per annum.<sup>53</sup>

Cleveland County Council have estimated the cost of treatment necessary to bring the County's road to a satisfactory state of repair on the basis of the CHART (Computerised Highway Assessment of Ratings and Treatment) system of need assessment. The cost, at 1986, of the required carriageway and footpath structural works was estimated as some 67 million compared with an expenditure on these categories of work in 1986/87 of about 7.5 million:

"Because of commitments to street lighting energy, and cyclic activities, etc. at present only 54% of the total Revenue Budget can be allocated to structural maintenance, at which level

it would take some 9 years before the backlog can be eliminated without any consideration for the on-going deterioration."<sup>54</sup>

Over the years Cleveland County Council have also monitored the cost of restoring highway maintenance expenditure to 1974 levels, recognising that the standards implied by such expenditure are somewhat arbitrary and not necessarily ideal. The trend in the divergence between this cost and actual expenditure between 1974/75 and 1986/87 is shown in Figure 3d, illustrating two main periods of increasing divergence during the mid-late 1970s and between 1982/83 and 1985/86. Increased expenditure in 1986/87 and 1987/88 have closed the gap but the budget for the latter year was still 17% below the 1974 level.<sup>55</sup>

Hereford and Worcester County Council has maintained a similar monitoring system relating to structural maintenance on principal roads which indicates that while actual expenditure remained relatively constant in real terms between 1978 and 1985, assessed need approximately doubled. Consequently, in 1985 actual expenditure was only about 24% of that required to achieve the desired standards.<sup>56</sup> Finally, Norfolk County Council estimated in 1986 that there was a backlog of maintenance work on the County's roads amounting to almost 16 million and that the annual expenditure need to achieve satisfactory standards was 20.6 million. Since the actual maintenance budget was about 14 million it was clear that a substantial increase in expenditure was needed to improve roads to required standards and to maintain them at those standards. In fact, an increase of about 10% in real terms was achieved in the maintenance budget for 1987/88.<sup>57</sup>

Therefore, there is widespread evidence to indicate that the condition of local authority is deteriorating and that a substantial increase in maintenance work is required to arrest this deterioration and to achieve what would be regarded as appropriate standards. Local authority estimates suggest that a considerable increase in expenditure on road maintenance is needed, particularly on structural maintenance which, as discussed in the previous section, has suffered the brunt of expenditure restraints over the years. The recent Audit Commission study in fact estimated that an increase of 200 million per annum is required in structural maintenance expenditure simply to arrest deterioration and hold the network at its present standards.<sup>58</sup> Total expenditure nationally on structural maintenance in 1987/88 is estimated at some 660 million so the required increase is 30%. However, it should be borne in mind firstly, that this estimate does not allow for any increased expenditure on cyclic maintenance (which many authorities would argue is necessary) and secondly that it does not allow for any improvement in the standard of the highway structure.

We have seen, in fact, that many authorities believe that standards have fallen below levels which can be regarded as acceptable and, therefore, estimates of additional resource requirements should address the issue of the extent to which standards should be raised. We will return to this issue in Section 4 below but at this stage we can discuss various factors which are relevant to the argument.

#### 2.4 Arguments for Improved Road Conditions

The main factors relevant to the argument for improved standards of road maintenance relate to economic and safety considerations. The most fundamental economic argument is that failure to maintain the structure of highways to adequate standards can result in substantially greater cost in the future when major reconstruction is eventually required. We have seen that authorities have been forced to make cuts in structural maintenance due to expenditure restraints and have resorted increasingly to patching and surface dressing - 'short-term remedial treatments':

"The results of this short-term expedient must eventually result in an accelerating deterioration of the roads and necessitate in the not too distant future a fairly massive injection of funds to restore the roads to an acceptable condition."<sup>59</sup>

In fact, on regularly-maintained roads in good structural condition surface dressing at five year intervals represents an effective treatment. On principal and other classified roads, according to Cleveland County Council estimates, surface dressing costs about 7300 per kilometre.<sup>60</sup> However, failure to surface dress at appropriate intervals will advance the need for resurfacing at a cost of around 45000 per kilometre. If resurfacing is delayed premature reconstruction of the road may become necessary at a cost of 140,000 per kilometre.<sup>61</sup>

Of course, there is no need to establish the case for adequate maintenance of capital assets - it is absolutely essential to maximise their long-run economic return. Conversely, lack of maintenance to adequate standards clearly results in a waste of resources. The implications of inadequate structural maintenance of local roads over the years are now becoming apparent in the increasing need for substantial reconstruction of roads which authorities are building into their capital programmes. For example, Kent County Council embarked upon five year 'Reconditioning Programme' in 1982/83 at a cost of 30 million (at November 1982 prices) over and above the normal highway maintenance programme, to be funded from both revenue and capital resources.<sup>62</sup> Other authorities which have made bids for capital allocation in respect of structural improvement works include



Cleveland, Manchester, Birmingham and Sheffield. However, restraints on capital allocations have made such works more dependent upon the availability of capital receipts and this has constrained authorities' ability to pursue capital reconstruction programmes.<sup>63</sup>

It is not only inadequate structural maintenance which can store up problems and costs for the future. Over the years cyclic maintenance has been reduced by many authorities to levels regarded as the absolute minimum with regard to safety considerations. Indeed, there would appear to be quite widespread concern about whether presently-achieved standards are acceptable. As Kent County Council warns: "Inadequate cyclic maintenance will ultimately be reflected in higher accident rates, vehicle damage and increased structural maintenance."<sup>64</sup> Manchester City Council has expressed concern about its inability to achieve recommended standards of cyclic maintenance:

"... as a result of reduced treatment expensive problems are being created. Road gullies and highway drains become silted up and blocked beyond recovery by normal cleansing methods and have to be excavated into and broken out, infrequent grass-cutting can create a road safety hazard and lack of weed treatment in roads and footpaths leads to an acceleration in surface deterioration."<sup>65</sup>

Damage to vehicles due to inadequate road maintenance, both structural and cyclic, represents an economic cost although there is little evidence available on the extent of this cost. Much of the cost will be borne by users in the form of additional vehicle maintenance cost and depreciation but some is also borne by local authorities through claims made under the Highways (Miscellaneous Provisions) Act 1971. Trends in such claims are seen as reflecting the deteriorating condition of the highways. Comprehensive evidence is not available but two examples of such trends are provided by Hereford and Worcester County Council and Dudley Metropolitan Council. Thus, claims against Hereford and Worcester Council increased from 145 in 1980/81 to about 250 in 1986/87, an increase of 72%.<sup>66</sup> Claims against Dudley Council more than doubled between 1980 and 1987 from about 225 to 535.<sup>67</sup> This provides an indicator of the increasing cost due to inadequate road maintenance.

Such claims also raise the issue of safety, the second major consideration in arguments for improved road conditions. It is clear that if maintenance standards fall too far the risk of accidents increases. Inadequate structural maintenance can result in poor skid resistance of the carriageway surface; inadequate cyclic maintenance can result in excessive surface water; inadequate maintenance of footways poses risks to pedestrians. Cyclists and motorcyclists are particularly

vulnerable to carriageway defects especially potholes and poor temporary reinstatements following utility excavations. There is limited evidence on the extent of safety problems for such users but they were raised in evidence to the House of Commons Transport Committee (1983, paras 27-9) and the problems for pedestrians and cyclists are referred to by Hereford and Worcester County Council in the following terms:

"(A)ssociations representing these two classes of road user who have carried out their own research are expressing concern about the deterioration in carriageway and footway conditions, citing defects as an increasing contributory factor in accidents. It is clear from casual observations that there is some substance in their claims."<sup>68</sup>

There are, therefore, strong arguments on the grounds of direct economic and safety considerations for improved standards of road maintenance. These arguments are supported by two additional factors which we can consider briefly. First, there is an indirect economic argument relating to the role of the condition of an area's roads in supporting measures to encourage and attract new economic activity. This is of particular relevance to inner urban areas with an ageing road network in which efforts are being made to promote economic regeneration. There is little hard evidence on the extent to which poorly maintained roads constitute a deterrent to new businesses but this factor has been considered, for example, by Kirklees and Sheffield Councils. In Kirklees concern has been expressed about standards for grass cutting and tree maintenance falling to levels which "... fail to provide the environment to attract new industry and commerce to areas showing signs of dereliction within Kirklees."<sup>69</sup> Sheffield City Council summarises its position as follows:

"The City Council is anxious to ensure that the existing highway network is maintained to modern standards. A considerable backlog of work has built up over recent years as a consequence of repeated underfunding. The Council is convinced that urgent rectification is necessary. Not only will this reduce the bill for future maintenance but it will also help to improve the attractiveness of the inner urban area and indirectly act as an encouragement to new businesses."<sup>70</sup>

Finally, there is public opinion. Strong grounds are provided for improvements in road conditions by evidence of considerable public dissatisfaction with the present state of roads and footpaths. In a MORI poll commissioned by the Audit Commission in 1986 on public attitudes to local authority services, 63% of respondents expressed dissatisfaction with road maintenance (and 50% with street cleaning) compared with under 20% expressing dissatisfaction with other services such as education, refuse

collection, police and fire.<sup>71</sup> A Gallup survey conducted in four West Midlands authorities found 57% of respondents to be dissatisfied with the condition of the roads.<sup>72</sup> In a recent opinion poll of Manchester residents over 50% highlighted the condition of the roads as being a matter for serious concern.<sup>73</sup> A final example is a public opinion survey in Cleveland in 1983 which found that "... despite reasonable satisfaction with most services provided by local authorities the general public in Cleveland are increasingly dissatisfied with the state of repair of local roads and footpaths."<sup>74</sup>

## 2.5 Conclusion

It is clear that local authorities face a problem of some considerable magnitude in achieving an improvement in the condition of their roads. A substantial backlog of maintenance work has built up over the past decade or so due to inadequate treatment in the face of continually increasing needs. The length of road requiring maintenance and the amount of traffic using local roads grows constantly. Growth in heavy goods vehicle traffic is a primary determinant of wear and tear of carriageways. The increasing scale of excavations by the statutory undertakers and the poor quality of reinstatements have created serious problems for local authorities. Harsh winter weather has exacerbated the problem, particularly as severe frost has sought out weaknesses caused by inadequate treatment, heavy vehicles and utility excavations. The amount of maintenance work {required has been increased by the growth in street furniture associated with traffic management measures. Comprehensive traffic management strategies have concentrated wear on certain roads, often minor link roads not suited to the task. The situation has been aggravated by capital expenditure restraints which have delayed new construction and improvement schemes resulting in an increased requirement to maintain older roads and in a growth in traffic management strategies. Increasing public concern about environmental and conservation standards, about public safety and crime, and about improved facilities for disabled people has added to the demands placed upon local authorities in terms of maintenance work.

While the need for maintenance work has increased, the cost of undertaking a given amount of work has also increased significantly. The escalating cost of materials has been of particular importance. In the face of restraints on public expenditure local authorities have resorted to cheaper road treatments and have also had to reduce labour costs by cutting back on the maintenance workforce. However, as well as adopting lower cost treatments, authorities have also had to reduce their work outputs and this has been reflected by declining standards. There is a considerable amount of evidence from the National Road Maintenance Condition Survey and from authorities' own surveys

on the extent to which road conditions have deteriorated and on the cost to restore roads to acceptable standards. Finally, there are sound arguments relating to economic and safety considerations for improving the present condition of local roads and for ensuring that roads are continually maintained at acceptable standards. These arguments are supported by evidence of considerable public dissatisfaction with the present state of the country's roads.

Clearly, the problem is that local authorities have not been undertaking sufficient maintenance work to address growing needs and problems to acceptable standards. Leaving aside for the time being the issue of what constitutes 'acceptable standards', the problem has two main dimensions. The first is the amount of resources allocated to road maintenance and there are, in turn, two relevant considerations here vi. the influence of central government controls on the total resources available to local authorities and the approach adopted by authorities to the allocation of available resources between their various services. The second dimension to the problem concerns the effectiveness and efficiency with which the resources allocated to road maintenance are used in addressing the defined problems and needs. There are two relevant questions: Are resources being allocated effectively to meet the priority needs? Are resources being used efficiently to produce maintenance outputs?

Within this framework there is scope for rather different perspectives on the fundamental cause of the problem and, therefore, on the nature of the solution. On the one hand, it is possible to place the emphasis on inadequate funding for road maintenance over the years. This is the perspective which tends to be emphasised by the local authorities and which has been supported by the House of Commons Transport Committee. It emphasises in particular the impact of restraints by central government on local authority expenditure and the need for central government to make more resources available. This perspective is indicated in the following quotations from the House of Commons Transport Committee (1983):

"There is almost unanimous agreement among local authority associations and the professional engineering institutions that the present level of financial support for the maintenance of local roads is inadequate." (para 198)

"... necessary remedial work is being prevented by financial constraints ..." (para 46)

"... we believe that the Government should take immediate steps to make additional resources available to local authorities for highway maintenance." (para 202)

An alternative perspective focuses on the role of local authorities in allocating and using the available resources, questioning, firstly, whether authorities are giving road maintenance sufficient priority relative to other services and, secondly, whether they are achieving adequate levels of effectiveness and efficiency in the use of resources. This perspective is emphasised by the Government and has gained some support from the Audit Commission. In terms of a solution to the problem it places the focus on measures to improve decision-making and efficiency within local authorities. The following quotations are indicative of this perspective:

"Responsible pay settlements, increased efficiency and the avoidance of waste should enable local government to maintain satisfactory levels of road maintenance ... without having to overspend the provision."

(H M Treasury, 1983, para 2.6.18)

"The deepening underspend, compared with overspending against planned provision on most other services, indicates that local authorities are not according road maintenance sufficiently high priority."

(H M Treasury, 1988, para 8.51)

"... the decline in road condition, coupled with the underspending on highways maintenance, suggests that local authorities need to reexamine their priorities. In particular, they need to ensure that highways maintenance is not suffering because of slow progress in improving efficiency in other services."

(Audit Commission, 1988a, para 28)

In the next section we will analyse in more detail the response of local authorities to the maintenance problem in the context of changes in central government policies and financial controls since the beginning of the present decade. As a result we should be able to shed more light on the above dispute as to causes and solutions to the problem as a basis for a discussion of possible ways forward.

### 3. Local Authority Responses to the Road Maintenance Problem

#### 3.1 Introduction

Our aim in this section is to examine the extent to which the failure of local authorities to achieve adequate standards of road maintenance in recent years can be understood in terms of the operation of the systems for central government support and control of local authorities' expenditure. We shall focus primarily on the period since the introduction of the block grant system in 1981/82 and will pay particular attention to the impact of the reform of the Transport Supplementary Grant (TSG) system in 1985/86 which discontinued support from this source for local transport current expenditure. However, this change will be assessed in the context of the broader system of local government finance. Also relevant to the analysis is the abolition of the GLC and Metropolitan Counties in 1986 although we do not intend to undertake a specific analysis of the impact of this measure.

We undertake the analysis in terms of two main periods. First, in section 3.2, we examine the period up to 1984/85 when local authorities' road maintenance expenditure was supported by TSG. We discuss changes in the Government's provision for expenditure on local road maintenance and its relationship to authorities' perceptions of need and expenditure behaviour (section 3.2.1). We then analyse the impact of TSG settlements (section 3.2.2) and of the operation of the system of expenditure targets and block grant penalties (section 3.2.3). The responses of local authorities to growing maintenance needs and problems within the above financial context are then examined in greater detail, in terms of policies and outputs (section 3.2.4). Finally, the considerations which were seen as relevant to the reform of the TSG system are examined briefly in relation to road maintenance (section 3.2.5).

Developments since the reform of the TSG system are analysed in section 3.3. Trends in Government provision and the operation of the expenditure control systems since 1985/6 are discussed in section 3.3.1 and the implications for authorities' ability to address their road maintenance problems and needs are examined in section 3.3.2. Section 3.4 summarises the main findings and conclusions.

#### 3.2 Local Road Maintenance Within the TPP/TSG System

##### 3.2.1 Government Provision for Local Road Maintenance

Up to 1984/85 local authorities' current expenditure on road maintenance was supported by central government both via Transport Supplementary Grant (TSG) and Rate Support Grant (RSG).

TSG was paid to provide support to authorities' local transport programmes over and above that provided by RSG and was allocated on the basis of expenditure 'accepted' by the Secretary of State from authorities' TPP bids. TSG was allocated to each county in such a way as to equalise most of the accepted expenditure per head of population and was paid as a proportion of the amount by which an authority's per capita total accepted expenditure exceeded a threshold value which expressed the extent to which expenditure should be financed from rate income supported by block grant (or borrowing etc. in the case of capital expenditure). TSG was an unhypothecated block grant supporting both current and capital expenditure (Sanderson 1988A p26-27).

As regards current expenditure within the threshold, block grant (from 1981/2) was allocated on the basis of a grant-related expenditure assessment (GRE) which allocated the total expenditure provision, net of TSG, to authorities primarily on a per capita basis. The GRE covered expenditure on road maintenance and safety and on public transport revenue support.<sup>75</sup>

The Government's expenditure provision for road maintenance, deriving from the spending plans published annually in the Public Expenditure White Paper, was reflected in the amount of 'accepted expenditure' within the TSG system. Figure 4 illustrates the equality between these two amounts and the trend in real terms between 1979/80 and 1984/5.<sup>76</sup> It can be seen that there are two distinct periods in terms of the Government's expenditure plans for local road maintenance. First, between 1979/80 and 1981/82 provision was reduced by some 11% in real terms in the context of the Government's wider attempts to achieve reductions in public expenditure. However, the levels of provision illustrated do not reflect fully the degree of expenditure restraint applied because the Government made additional requests to local authorities to reduce expenditure in 1979/80 and 1980/81 - by 3% in 1979/80 and by 5% in 1980/81. This accounts for the increasing degree of underspending in these two years. The level of provision was reduced significantly in 1981/82, the year of the introduction of the new block grant system but authorities' expenditure increased, producing a 12% overspend, largely due to the effects of the severe winter.

The second distinct period, 1982/83 to 1984/5, presents a contrasting picture of increasing Government provision in real terms. In 1982/83 provision for road maintenance was increased by 4% in real terms by the Government ostensibly ... "because overspending in 1981-82 means that local authorities will not be able to achieve the previously planned levels".<sup>77</sup> This rather generous approach contrasts markedly with that of previous years and might be explained, in part, by the approaching General Election in 1983. In subsequent years more modest increases in

provision were made in the context of the Government's concern to reduce overspending by local government. This concern was expressed as follows:

"Responsible pay settlements, increased efficiency and the avoidance of waste should enable local government to maintain satisfactory levels of road maintenance..... without having to overspend the provision".<sup>78</sup>

In fact, the Government's expenditure restraints resulted in declining expenditure on road maintenance by local authorities over this period such that overspending had been virtually eliminated by 1984/85 (Figure 4).

However, the important question is whether or not the Government's 'success' in bringing down local maintenance expenditure into line with its spending plans over this period was matched by 'success' on the part of local authorities in meeting effectively the growing needs for such expenditure. In this issue, the discrepancy between the perspectives of the Government on the one hand and local authorities on the other is reflected in the differences between the former's expenditure provision and the latter's TPP bids for maintenance expenditure based upon local assessments of needs. The trend between 1981/82 and 1984/85 shown in Figure 5 is of particular interest.

The reduced level of bids in 1981/82, particularly in the shire counties, reflects authorities' conformance with Government pressure to reduce expenditure but provision was set nationally some 8% below the total of bids. Between 1981/82 and 1983/84 authorities' bids for maintenance resources increased in response to evidence of deteriorating road condition, exacerbated by the effects of the 1981/82 winter which are reflected, in particular, in the 1983/84 bid. In this latter year, provision was 12% less than the total of bids nationally but the discrepancy was 18% in the metropolitan counties and 15% in London (figs. 5 B-C). This discrepancy indicates a significant degree of disagreement between local authorities and the Government on the extent to which the latter's expenditure provision reflected the actual road maintenance needs facing local government.

In general terms, the extent of this discrepancy over this period was larger in the GLC and metropolitan counties than in the shire counties, although it was not nearly so significant as the disagreement over the level of revenue support for public transport services.<sup>79</sup> By 1984/85 the level of accepted expenditure for the GLC was 24% below the TPP bid; in the metropolitan counties it was nearly 10% compared with under 5% in the shire counties. As regards the metropolitan counties, Figures 6A, 7A and 8A illustrate the trends in three selected authorities and show that accepted expenditure in South Yorkshire



and West Midlands was consistently well below TPP bids and increased little in real terms between 1981/82 and 1984/85. Greater Manchester fared somewhat better with a 24% increase in accepted expenditure over this period with provision matching bid in 1984/85.

Variability between authorities is also evident from our sample of shire counties illustrated in Figures 9A-17A. Only two authorities show a reduced level of bids in real terms over the period 1981/82 to 1984/85 - Norfolk (Fig 15A) and Oxfordshire (Fig 17A) - broadly in line with accepted expenditure (except for 1983/84 in Norfolk). On the other hand, only one authority - Cornwall (Fig 12A) experienced an increase in accepted expenditure sufficient to match the level of bid by 1984/85. Other authorities received increases in accepted expenditure in real terms which were insufficient to match their bids and two authorities - Cleveland (Fig 11A) and Hereford and Worcester (Fig 13A) - fared particularly badly with accepted expenditure falling increasingly behind bid. Thus, in 1984/85 accepted expenditure for Cleveland was 19% below bid and in Hereford and Worcester 16% below.

Most authorities disagreed with the Government's view that the level of expenditure provision was sufficient to meet maintenance needs, given improvements in efficiency. The position expressed by Cheshire County Council is perhaps typical:

".....the Council is constrained by the general restraint on public authority expenditure and has to consider the claims of highway maintenance in the context of the many other demands on its funds. The resources available for highway maintenance have fallen in real terms over the years. Despite increased efficiency this means that less work can be done each year than the year before".<sup>80</sup>

The majority of authorities in our sample expressed views in their TTP's to the effect that the level of accepted expenditure was inadequate in relation to assessed road maintenance needs.

However, in terms of the maintenance work outputs of local authorities relative to needs, the full extent of the deterioration in the situation between 1981/82 and 1984/85 is not measured by trends in accepted expenditure. Figure 5C-D shows the extent of the decline in maintenance expenditure over this period in authorities outside London, and particularly in the shire counties (an 8% decline). By 1984/85 expenditure in these authorities was below the Government's provision (as measured by accepted expenditure) by some 5% in the shire counties and nearly 2% in the metropolitan counties. Therefore, in the shire counties expenditure was 9% below TPP bids in 1983/84 and 1984/85.

This pattern is reflected in the trends of the sample individual authorities illustrated in Figures 9A-17A. In most cases in 1981/82 and 1982/83 authorities spent above their accepted expenditures for road maintenance; however, by 1984/85 most were underspending against accepted expenditure following real terms declines in expenditure. In order to explain this trend we must examine the two main aspects of the system for financing local road maintenance expenditure: first, the provision of Transport Supplementary Grant; and, second, the provision of block grant support.

### 3.2.2 The Impact of Transport Supplementary Grant Settlements

As we have discussed in previous analysis (Sanderson 1988 B, Section 2.4) the importance of TSG in supporting local transport expenditure declined between 1979/80 and 1984/85 and the explanation of expenditure patterns and trends over this period is more dependent upon the operation of broader expenditure control systems. As regards local road maintenance expenditure in particular, the block grant system and the impact of expenditure targets and grant penalties between 1981/82 and 1984/85 is of special interest. Nevertheless, the trend in TSG settlements was found to be a relevant explanatory variable.

The decline in the role of TSG was particularly marked between 1982/83 and 1984/85 when, as a proportion of total accepted expenditure (ie including capital items), it fell from 25% to 18%. The amount of TSG allocated to authorities declined in real terms over this period by some 19% (Figure 18). As can be seen from Figure 18 TSG was proportionately more important in supporting local transport expenditure in London and the metropolitan areas than in the shire areas because of the low level of the TSG threshold relative to per capita expenditure in the large urban areas. In 1982/83 TSG as a proportion of total accepted expenditure amounted to 44% for the GLC, 29% for the metropolitan counties and 19% for the shire counties. By 1984/85 these proportions had declined to 33%, 22% and 15% respectively. Therefore, there are prima facie grounds for the argument that TSG settlements are more important to the explanation of trends in London and the metropolitan areas than in the shire areas, where block grant provision will be more important.

Differences in the maintenance expenditure trends between these areas are consistent with such an argument (see Figure 5). In particular, the trend of increasing maintenance expenditure between 1981/82 and 1984/85 in London (receiving greatest support from TSG) contrasts with the trend of decreasing expenditure in the shire areas (receiving least support from TSG), (Figure 5b, 5d). The metropolitan areas, in an intermediate position in relation to TSG, show a lower rate of decrease in expenditure

than the shire areas (Figure 5c). These trends suggest that TSG played some part in supporting maintenance expenditure in proportion to the degree of 'protection' that it provided from the impact of the wider current expenditure control systems.

Such a conclusion is supported by an analysis of the impact of changes in TSG support received by authorities between 1981/82 and 1984/85. Over this period authorities were subject to increasingly severe expenditure restraint through the operation of the system of targets and penalties as will be discussed in the next section. The 1982/83 TSG settlement was relatively generous to the shire counties (Fig 18a) who received an increase in grant allocation of 21% in real terms, while the GLC and MCC's suffered reductions due to decreases in accepted expenditure. In contrast, the 1983/84 settlement was generous to the GLC which received a 7% increase in grant in real terms (within a reduced total) primarily at the expense of the shire counties, which experienced a reduction of 21% in real terms. The reason for this redistribution (the use of a higher threshold to distribute a reduced amount of grant) is discussed in more detail in Sanderson (1988 B, Section 2.4). The effect was to increase the amount of road maintenance expenditure by the shire authorities requiring to be supported by rate income and block grant, thus increasing the exposure of such expenditure to current expenditure restraints, particularly block grant penalties. Conversely, expenditure in the GLC gained more protection from penalties.

Trends in maintenance expenditure, especially in London and the shire areas, reflect these changes in TSG allocation (see Figure 5). Thus, in the increasing trend in London, growth in 1983/84 is particularly marked. Conversely, the most significant decline in the shire counties occurred in 1983/84. We have commented in detail elsewhere in on the absence of logic in this pattern of TSG settlements in relation to the thrust of the Government's policies at the time.<sup>81</sup> In particular, the 1983/84 settlement supported overspending by the GLC at a time when the Government was especially concerned to reduce such overspending, and promoted expenditure reductions by the shire counties, many of which had already conformed with Government exhortations to observe expenditure restraints.

Figure 5D illustrates the degree to which the reduced maintenance expenditure by the shire authorities in 1983/4 fell short of the level of assessed needs as measured by TPP bids. This shortfall was particularly large because bids for 1983/84 contained significant amounts of expenditure proposed to tackle the adverse effects of the severe 1981/82 winter and also proposals in response to the Government's initiative to achieve higher standards of road maintenance in areas suffering from the effects of heavy lorries. Expenditure restraints, exacerbated by the

1983/84 TPP settlement, therefore restricted the scope for authorities to address these problems.<sup>82</sup>

Figures 9B-17B show the trend in TSG allocations in our sample of shire authorities relative to total accepted expenditure and total expenditure supported by TSG (ie including revenue support and capital expenditure). It can be seen that five authorities experienced a reduction in TSG in real terms, this being most marked where total accepted expenditure was reduced (Avon and Norfolk). Some authorities did increase their TSG allocations but it can be seen that this was due to a significant increase in accepted expenditure for non-maintenance items (mainly highways capital); Cleveland and Hereford and Worcester fall into this category. The dominant picture is one of reduced maintenance expenditure being associated with reduced TSG, the main exception being Kent County Council which increased its maintenance expenditure slightly in real terms in spite of expressions of concern about the impact of the reduction in TSG.<sup>83</sup>

Norfolk, Cheshire and Avon County Council all indicate that the 1983/84 TSG settlement exacerbated financial problems. For example, in Norfolk:

"The County Council was extremely disappointed at the small amount of grant, which has created a serious financial problem....."<sup>84</sup>

The main impact in Norfolk was on the Council's capital programme but structural maintenance expenditure also had to be reduced:

".... the provision for structural maintenance of principal roads can only be 1.41m in 1983/84 compared with the measured need of 3.39m. The Council is most concerned at the situation and there is no doubt that the more important non-principal roads are deteriorating in parallel, with equally serious financial consequences".<sup>85</sup>

In its 1983/84 bid Cheshire County Council had included proposed additional expenditure to rectify the damage caused by the severe winter of 1981/82 which had been postponed due to expenditure restraints in 1982/83. To this bid was attached the following warning:

"Should the resources not be made available to undertake the necessary structural repairs, further deterioration will take place leading eventually to structural collapse - requiring wholesale reconstruction at far greater cost".<sup>86</sup>

In the event, the Council's bid was not accepted in full and the reduction in TSG of 34% in real terms from 1982/83 (".... equivalent to just over a 1p increase in rates....."<sup>87</sup>)

constrained the authority in its attempt to make good this damage.<sup>88</sup> Moreover, this reduction in grant did not assist the Council in implementing special maintenance schemes to alleviate the environmental effects of heavy vehicles, in accordance with government policy, bids for which had been accepted in 1983/84.<sup>89</sup>

Avon County Council's TPP bid for 1983/84 incorporated a proposed increase in expenditure of nearly 2 million to commence a programme to address the maintenance backlog assessed by the Council's annual 10% Random Sample Survey (Cf above section 2.3), and also to implement special schemes in areas affected by heavy lorries in furtherance of the Government's initiative. However, due to an extremely low allocation of grant<sup>90</sup> the Council could not achieve the proposed expenditure. The Council's opinion on the TSG allocation was as follows:

"Over the years..... Avon has fared particularly badly in TSG terms despite setting out proposals which clearly demonstrated the transport needs of the County. This culminated in 1983/84 when its TSG settlement of only 484,000 was, on almost any rational comparison, the worst in the Country. This represents only 52p per person in Avon compared with a Shire County average of 4.56 throughout England. The County Council is concerned at this inequitable distribution of the grant and has conveyed to the Secretary of State in the strongest possible terms its disapproval of the TSG settlement and the TPP system in general".<sup>91</sup>

The expenditure restraints exacerbated by the TSG settlement in 1983/84 resulted in a maintenance budget some 13% less than the TPP bid, this budget including the special schemes for relief of the affects of heavy lorry traffic in spite of the lack of grant support. The problem was summarised as follows:

"For 1983/84 the County Council approved a budget for highway maintenance equating to 15,341,000 at outturn prices. Although the County Council had planned originally to increase maintenance expenditure in real terms, in the event this was not considered practicable. No additional TSG was available to help offset any increased expenditure, on the contrary TSG was substantially reduced from the previous year and the operation of the Block Grant penalties imposed by the Secretary of State meant that for every additional pound spent the ratepayer would bear some 2.50".<sup>93</sup>

Consequently, there is evidence that TSG settlements over the period up to 1984/85 played a role in the context of broader expenditure controls in restraining maintenance expenditure and

hindering authorities in their attempts to address the problem of deteriorating road conditions. However, as the view expressed by Avon County Council above indicates, the operation of the broader system of block grant restraints (specifically the system of targets and penalties) is of fundamental importance to the analysis. As Cheshire County Council state:

"...Transport Supplementary Grant cannot be seen in isolation - the level of expenditure on transport depends on the Council's overall financial position and on the Government's policies towards Local Authority expenditure generally".<sup>94</sup>

### 3.2.3 The Impact of Expenditure Targets and Block Grant Penalties

Since the introduction of the Block Grant System in 1981/82 the Government's attempt to restrain local government expenditure have resulted in a decline in the degree of grant support for such expenditure. In 1981/82 block grant supported 45% of total expenditure; by 1984/85 this proportion was down to 35%.<sup>95</sup> As Transport Supplementary Grant also declined over this period (by 17% in real terms) authorities were placed under increasing pressure to restrain expenditure given the implications of any increases for local rate poundages. However, the system of expenditure restraint was tightened considerably by the operation of expenditure targets and grant penalties over the period 1981/82 to 1985/86.

We have described and discussed the system in previous reports and will not repeat the details here.<sup>96</sup> In broad terms, all authorities were provided with a target total expenditure by the Secretary of State in each year and any authority exceeding its target suffered a reduction in block grant according to a schedule of penalties which became more severe as the percentage overspend increased. In each year of operation of the system this schedule itself was made more severe; for example, in 1981/82 the grant penalty for an authority spending 5% in excess of target was equivalent to a 9p rate and by 1985/86 this had increased to 42p.

The system arose out of the Government's desire to achieve conformity with its spending plans for local government and, to an extent, 'cut across' the logic of the basic block grant system. In particular, targets did not bear a simple, direct relationship to grant-related expenditures (GRE's). Whereas the latter are supposed to represent a level of expenditure which the Government considers is 'objectively' required for an authority to provide an 'appropriate' standard level of service, targets expressed a more pragmatic view of what authorities could

realistically achieve in the light of their past spending behaviour. Therefore, authorities spending well in excess of GRE could receive a target also in excess of GRE and vice versa. This resulted in a situation where some authorities spending in excess of GRE were not liable to penalties while other authorities spending below GRE were liable. Essentially, the pragmatic basis of the system meant that the need to be realistic in relation to overspending authorities, yet to constrain expenditure to the Government's plans, resulted in the harsh treatment of many other authorities.

The effects of the system on different local authority classes, in terms of the relationship between total expenditure (net of allowable disregards), target and GRE, are illustrated in Figure 19.<sup>97</sup> Nationally, (Fig 19a) targets were below GRE in 1981/82 and 1982/83 but a 'GRE exemption' operated in these years such that authorities with targets below GRE were permitted to use the latter as their effective target. Expenditure increased in 1983/84 and targets rose above GRE. Between 1983/84 and 1985/86 targets were reduced and it can be seen that the operation of penalties would appear to have brought down expenditure in real to about the target level by 1985/86.

However, figures 19 B-D indicate that there were substantial differences between the GLC, the metropolitan counties and the shire counties. The considerable degree of 'overspending' by the GLC and MCC's between 1982/83 and 1984/85 is evident and, as a result, targets for these authorities during this period were significantly in excess of their GRE's. The converse of this situation is the picture of targets below GRE's in the shire counties. With the 'GRE exemption' operating in 1981/82 and 1982/83, Figure 19D indicates that the effect of targets and penalties became progressively more severe on the shire counties between 1983/84 and 1985/86, restraining expenditure below the level of GRE's. It would seem that the system had little impact on the GLC, expenditure in 1985/86, reflecting loss of responsibility for London Transport, with the situation in that year providing the basis for a criticism of the logic of the system, since this apparently 'excessive' target can only have helped to reduce the shire counties' targets increasingly below GRE. In the metropolitan counties the system would appear to have succeeded in bringing down expenditure between 1982/83 and 1984/85. Again, however, it is difficult to see the logic in setting the MCC's target for 1985/86 above their previous year's expenditure, while the shire counties' target was reduced further below GRE.

The effects of targets and penalties can be seen in trends in local authorities' road maintenance expenditure. Of particular interest are trends in the metropolitan and shire counties. As Figure 19C shows, expenditure in the metropolitan counties was

reduced in real terms between 1982/83 and 1984/85 by nearly 9%, from 18% above target to only 4% above target (17% above GRE). By 1985/86 expenditure was equal to target, although the latter had been increased from 1984/85, and only 6.5% above GRE. The impact of this restraint is reflected in reduced current transport expenditure in these authorities between 1982/83 and 1985/86: road maintenance expenditure declined by some 5% in real terms and revenue support expenditure by 13.5%. The situation in Greater Manchester, South Yorkshire and West Midlands is illustrated in Figures 6-8 and these authorities can be examined in more detail.

All these authorities were spending well in excess of target in 1981/82 and 1983/84 and, in all three, expenditure was reduced in real terms between 1982/83 and 1984/85 (Figs 6c-8c). In Greater Manchester and West Midlands expenditure in 1984/85 was close to target (2% and 3% above respectively) and to GRE (7% and 2% above respectively). However, West Midlands' targets were more harsh in relation to GRE than Greater Manchester's; indeed, in 1984/85 target was set below GRE (Fig 8c). On the other hand, South Yorkshire's targets were well above GRE between 1982/83 and 1984/85 (around 60% above), reflecting their essentially pragmatic nature, and the reduction in total expenditure over this period (8% in real terms) was slightly less than in the other two authorities (Fig 7c). Nevertheless, by 1985/86 South Yorkshire's expenditure had been reduced to target level, although this was significantly above GRE, whereas in the other two authorities it was below GRE.

The expenditure restraints imposed by the system of targets and penalties in these authorities are reflected in the trends in maintenance expenditure. In 1981/82 all three authorities had been spending in excess of accepted expenditure for maintenance (Figs 6A-8A). By 1984/85 expenditure in Greater Manchester was 16% below accepted expenditure and in West Midlands was at about the accepted level. South Yorkshire maintained an expenditure above the accepted level in 1984/5 indicating that penalties had less impact and reflected the fact that target was well in excess of GRE. In all these authorities maintenance expenditure clearly suffered, the most obvious downward trend being in the West Midlands where the Council found it increasingly difficult to sustain a priority towards road maintenance which is indicated by 'overspending' related to maintenance accepted expenditure up to 1984/85.

The trends indicated in Figures 6-8 lend support to the conclusion that restraints effected through the system of targets and penalties are of more significance in explaining expenditure trends than changes in TSG allocations. Changes in the amount of TSG received by these authorities between 1981/82 and 1984/85 would appear to have had less impact on maintenance expenditure.



The only case of a clear correlation between increased TSG and increased maintenance expenditure is in South Yorkshire in 1982/83, but in this year the target was also increased by 13.5%. Between 1982/83 and 1984/85 South Yorkshire experienced the largest cut in TSG (being halved in real terms) but had the lowest reduction in maintenance expenditure (5% in real terms); in Greater Manchester and West Midlands TSG remained nearly constant in real terms but maintenance expenditure declined by 7-8%. Of course, TSG was also used over this period to support current expenditure on public transport revenue support and capital expenditure on roads and public transport and the significant expenditures on these items in the metropolitan counties meant that one might expect difficulties in determining the relationship between TSG and maintenance expenditure, particularly in view of the priority given by these authorities to public transport programmes.

Turning to trends in the shire counties, Figure 19 D illustrates that, given the 'GRE exemption' up to 1982/83, the main restraining impact of targets and penalties in these authorities was felt between 1983/84 and 1985/86, when total expenditure was reduced by some 5% in real terms. Over this period target fell increasingly below GRE presenting many shire counties with the prospect of grant penalties on expenditure below their GRE's. This contrasts with the GLC and MCC's for which, in aggregate, targets exceeded GRE. Moreover, the shire counties were also disadvantaged by a relatively low real increase in GRE over this period: 2% compared with 4% for the GLC and 16% for the metropolitan counties.

Figure 5D indicates that between 1983/84 and 1985/86 road maintenance expenditure in the shire areas declined in real terms and fell increasingly behind 'provision' (accepted expenditure to 1984/85 and GRE in 1985/86). This is consistent with the impact of targets and penalties and we can examine this impact in more detail with reference to trends in our sample shire counties illustrated in Figures 9-17, focusing on the years 1983/84 and 1984/85.

We have seen that in 1983/84 targets for the GLC and metropolitan counties were increased above GRE while in aggregate the shire counties' targets were below GRE, with the 'GRE exemption' no longer applying. Amongst the shire counties themselves some were given targets above GRE and some below, largely reflecting past spending behaviour. From our sample it can be seen that Avon (Fig 9), Cheshire (Fig 10), Cleveland (Fig 11) and Nottinghamshire (Fig 16) had targets in excess of GRE while the remainder were set targets at or below GRE, all of the latter having spent below GRE in 1982/83. All the authorities in the first group spent above their targets in 1983/84 (and hence their GRE's also) thus incurring grant penalties. Most

of the authorities in the second group spent at the target level thus avoiding penalties; Cornwall and Kent were just under 2% in excess of target, however, and therefore incurred modest penalties. It is of interest to note that there is a clear difference in political control between authorities in these two groups: in the first group all were labour controlled in 1983/84 with the exception of Cheshire which was hung with Labour the majority party; in the second group all were Conservative controlled except Cornwall, where the majority of members had no party affiliation.<sup>98</sup>

In 1984/85 targets for all authorities were reduced in real terms from 1983/84. The largest reductions were imposed on authorities in the first group whose targets were brought down to be nearer to GRE - in the case of Nottinghamshire to be 2% below GRE. Combined with stiffer rates of grant penalty this served to reduce total expenditure in these authorities significantly in 1984/85: to within 1% of target with the exception of Cleveland whose expenditure remained nearly 5% above target. Authorities in the second group experienced lower reductions in targets in real terms but, nevertheless, these reductions took their targets even further below GRE; again most of these authorities complied by reducing expenditure in line with targets the exceptions again being Cornwall and Kent who overspent by less than 1%.

It is clear that the restraints thus imposed upon authorities by the system of targets and penalties are reflected in the trend in road maintenance expenditure. In 1984/85 all the shire authorities in our sample, with the exception of Kent, spent below their accepted expenditures for maintenance whereas in 1982/83 all except Cheshire had spent in excess of accepted expenditure. The most significant reductions in expenditure in real terms occurred in Cheshire, Cornwall, Norfolk and Oxfordshire over this period; only Cleveland and Kent increased their expenditure. Changes between 1983/84 and 1984/85 can be analysed in more detail with reference to Table 1 which compares the percentage change in maintenance expenditure in real terms in each authority with the percentage reduction in 1983/84 total expenditure required to meet the 1984/85 target, the latter constituting a measure of the degree of expenditure restraint imposed.

It can be seen, as indicated earlier, that the greatest degree of restraint in 1984/85 was imposed upon Avon, Cheshire, Cleveland and Nottinghamshire, the main 'overspending' authorities in 1983/84. However, only Cheshire reduced its maintenance expenditure and conformed to its target in 1984/85; Avon and Cleveland increased spending on maintenance in real terms and Nottinghamshire's remained stable as these authorities failed to reduce total expenditure in line with target and therefore still incurred penalties in 1984/85. This suggests an

attempt in those authorities to give some priority to road maintenance in the face of expenditure restraints imposed by the Government.

Table 1 Change in Road Maintenance Expenditure 1983/84 - 1984/85 Compared With the Degree of Expenditure Restraint Imposed by 1984/85 Targets

	<u>% Change in maintenance Expend 1983/84 - 1984/85</u>	<u>% Reduction in 1983/84 Total Expend to achieve 1984/85 Target</u>
Avon	+1.1	-7.3
Cheshire	-5.3	-4.6
Cleveland	+4.7	-6.4
Cornwall	-5.2	-2.2
Hereford & Worcester	+1.5	-2.3
Kent	+6.9	-2.2
Norfolk	-1.0	-1.9
Nottinghamshire	0	-8.1
Oxfordshire	-33.3	-2.6
All Shire Counties	-2.0	-3.9

Note: 1983/84 Total Expenditure is net of disregards

Source: Data provided by Dept of Transport and Dept of Environment

Other authorities experienced, on the face of it, a lesser degree of restraint but they were nevertheless pressured to reduce expenditure even though it was already below GRE. Consequently, these authorities experienced hardship in delivering cuts in services which were already 'underfunded' on the Government's own criterion. Cornwall and Oxfordshire produced more-than-proportionate cuts in maintenance, Norfolk's cuts were below average in achieving its target while Hereford and Worcester and Kent increased maintenance spending in the face of total expenditure reductions, especially Kent which again failed to achieve its target in 1984/85 thus incurring penalties.

Therefore, there is evidence that several authorities attempted to protect road maintenance expenditure from the cuts implied by the system of targets and penalties. The picture presented above suggests the importance of the process of determination of priorities between services within local authorities in the response to expenditure restraints. Thus, in the shire counties as a whole the reduction of 2% in maintenance expenditure in real terms between 1983/84 and 1984/85 compares with a reduction of about 1% in education budgets and increases of 1% and 2%

respectively in social services and police budgets. In those authorities with the largest reductions in maintenance expenditure in 1984/85 (Cheshire, Cornwall and Oxfordshire Cf Table 1) all imposed lower reductions on education budgets (less than 2%) and increased budgets for social services (by 2-3%) and police by (2-6%). In contrast, the authorities with the largest increase in maintenance spending in 1984/85 (Cleveland and Kent) gave lower priority to social services budgets (-1.8% in Cleveland and +0.2% in Kent) and to police budgets (+1.1% in Cleveland and +0.3% in Kent).<sup>99</sup> Therefore, notwithstanding the difficulties which authorities faced in meeting expenditure targets the actual impact on road maintenance expenditure was clearly conditioned by local perceptions of needs and priorities between services.

As indicated in the previous section, it is likely that changes in TSG allocations played a secondary role in determining changes in maintenance expenditure within the context of expenditure restraints imposed by the system of targets and penalties. Reductions in TSG served to increase the exposure of authorities to grant penalties although much depended on the decisions of authorities in relation to the application of TSG to revenue or capital accounts. We have seen that in the 1983/84 TSG settlement the shire counties suffered a significant reduction in grant (21% in real terms), while the penalty regime was made more severe in that year and the effect of the 'GRE exemption' ceased for the shire counties. The reduction in maintenance expenditure in these authorities as a whole was particularly marked in 1983/84 (5% in real terms) and most of our sample authorities experienced reductions. We referred to the experience of Avon County Council above (p. 29) which emphasised the effect of the reduced grant in exposing any increases in expenditure to penalties. As discussed earlier, this effect was the more significant because many authorities in 1983/84 were attempting to tackle a backlog of maintenance work arising from the severe winter of 1981/82 and implement special measures to alleviate the impact of heavy lorries in accordance with the Government's initiative.

Indeed, the degree of contradiction and conflict between the TPP/TSG system on the one hand and the target and penalty system on the other came in for criticism in the early 1980's from the Associations of County and District Council's. They emphasised the illogical nature of system in which:

"A bid for increased maintenance expenditure may receive acceptance and possibly additional grant, but in the face of D.O.E. pressure for overall expenditure cuts, the local authority could face block grant penalties on any additional expenditure".<sup>100</sup>

Consequently, it was argued, local authorities' attempts to give priority to highway maintenance were being thwarted by a ..... "cumbersome farrago of 'controls' which the Department of Transport operates through the TPP/TSG System".<sup>101</sup>

Evidence to support this argument is provided by our analysis subject to the proviso that authorities differ in the degree of priority assigned to road maintenance relative to other services and, therefore, not all the shortfall of expenditure from needs can be explained by the operation of central government expenditure controls. The argument gains clear support, again, from the situation in Avon County Council in 1984/85:

"In the 1984/85 TSG settlement the Secretary of State for Transport indicated that he had increased the provision for road maintenance throughout England by 8%. Accepted expenditure for maintenance in Avon was 13.375 million which is an increase of 12% above the level accepted for 1983/84. This higher than average acceptance level is taken as indicating that the case put forward by the County Council in support of higher maintenance expenditure has been endorsed by the Secretary of State. Unfortunately, the higher acceptance level did not significantly affect the level of grant and because of Government penalties the County Council has been unable to find highway maintenance to the accepted level".<sup>102</sup>

Avon faced block grant penalties in 1984/85 of some 3 for every additional pound spent and maintenance expenditure at the accepted level would have resulted in additional penalties of 6 million, imposing an additional 8 million burden on ratepayers. The Council goes on:

"This highlights the contradiction between the Government's approach to TSG settlements, in which an increased level of maintenance expenditure has been accepted, and the overall financial picture, in which the existing level of expenditure is already penalised as being too high and any increased expenditure would be further penalised. In addition the Block Grant penalty system puts pressure upon all existing elements of the County Council's budget as the need arises to finance the revenue effects of new capital expenditure. This can mean that savings have to be made elsewhere. Maintenance, the largest of the transport budget heads, is often the only source of such savings".<sup>103</sup>

The situation in Cleveland in 1983/84 also illustrates the effects of the target and penalty system on an authority attempting to increase maintenance expenditure, in this case to pursue a four-year programme of structural repairs to restore the network to a more acceptable standard. As indicated earlier, the

Council had overspent its target in 1982/83 and now faced difficulties in 1983/84:

"The target was set at a figure 1% below expenditure in the current year. The County Council was, therefore, expected to avoid increases in expenditure, to absorb all inflation and to make a further 1% cut as well ..... The Council now faces a clear choice. If it maintains its present policies Cleveland ratepayers are going to be penalised on an unprecedented scale. If it does not then major cuts in services are inevitable".<sup>104</sup>

The Council's TSG allocation was increased in 1983/84, in contrast to the general shire county situation, and in accordance with the Council's convention, the whole amount was allocated to the revenue account thus helping to reduce liability to penalties. However, this did not eliminate the need to seek expenditure reductions, including a review of maintenance expenditure. In this situation it was possible only to maintain such expenditure at about the previous year's level in real terms on the grounds that, if cuts had been imposed:

".. the slow climb back to the restoration of acceptable standards would be reversed and accelerated deterioration of the already crumbling network would occur".<sup>105</sup>

Nevertheless, the restraints imposed by the system of targets and penalties were a major factor in preventing the Council from achieving its four-year programme of increased expenditure to address the backlog of road maintenance needs.

Finally, Hereford and Worcester's target for 1984/85 was reduced in real terms to nearly 5% below GRE producing the prospect of grant penalties of 20 million on spending at the level of GRE, a situation, according to the Council, " ..... for which no logical explanation can be found".<sup>106</sup> The Council received an increased TSG allocation in 1984/85 and this helped to fund an increase in road maintenance expenditure. However, such expenditure was below the accepted level for 1984/85 and it is clear that further increases to meet assessed needs were prevented by the prospect of penalties on additional spending. Indeed, the Council operated a reserve fund for road maintenance to attempt to ameliorate the impact of penalties and to sustain higher spending than would otherwise be possible.<sup>107</sup>

Therefore, our analysis has indicated the significance of the Government's expenditure restraints, as imposed through the system of expenditure targets and penalties in particular, to the explanation of trends in local authorities' road maintenance expenditure up to 1984/85. The allocation of TSG between authorities was also an important factor but can be seen as of

secondary influence for most authorities, particularly the shire counties. The interaction between the TSG system and broader expenditure control systems over the period 1981/82 to 1984/85 was complex and the specific impact of changes in TSG is very difficult to identify. What is clear is that these systems often worked in conflicting and contradictory ways with the TPP/TSG system signalling increases in maintenance expenditure but broader expenditure restraints preventing authorities from achieving such increases. This is indicative of the conflict of interests within the central governmental apparatus between the Department of Transport, the Department of the Environment and the Treasury to which we have referred elsewhere.<sup>108</sup> It is clear that the central concern to reduce local government expenditure was dominant over concerns to ensure adequate standards of local road maintenance.

The contradictions are most in evidence in 1983/84. In that year the TSG settlement provided extra resources for the GLC at the expense of the shire counties at a time when the Government was concerned to reduce overspending by the GLC on public transport and when the shire counties were facing increasing problems with road maintenance and pressure from Government to implement schemes to relieve communities from the effects of heavy lorries. This contradiction was re-inforced by the expenditure target for the GLC being sent significantly above its GRE while that for the shire counties in aggregate was below GRE. In the following year the Government increased provision for road maintenance in the shire counties and their share of TSG was also increased. However, the total amount of TSG available was significantly reduced and the effect of the relatively small increases in grant was outweighed by further reductions in targets and even harsher penalties.

Nevertheless, within the context of these contradictory impacts of the TSG and broader financial control systems, it is clear that processes of local decision making about the priority to be assigned to road maintenance relative to other services for constrained resources are also an important variable in the explanation. In some authorities the degree of decline in road maintenance expenditure is indicative of higher priority being assigned to meeting other service needs but we have found evidence in several authorities of a recognition of the importance of adequate standards of road maintenance and of attempts to protect maintenance expenditure from the cuts implied by targets. However, the real terms decline in such expenditure between 1981/82 and 1984/85 and the degree of shortfall from assessed needs by the latter year, can be attributed primarily to the operation of the system of expenditure targets and grant penalties.

On the basis of this analysis we can now proceed to examine in more detail the implications of declining local road maintenance expenditure in terms of the responses of local authorities to the growing problems and needs which they faced.

#### 3.2.4 Implications for Local Authorities

In 1983 the Association of County and District Councils summarised the local authority response to restraints on road maintenance expenditure in the following terms:

"With the reduction in monies available for maintenance, highway authorities have had to reduce their standards of overall maintenance but have tried to mitigate the effects by concentrating cuts, whenever possible, on the amenity aspects, such as grass cutting and sweeping, and by adopting more extensive use of lower cost measures such as surface dressing which, although beneficial in the short term, do not add to the structural strength of the pavement and may, indeed, disguise more serious structural problems which may require expensive remedial works to be carried out in the future. There is probably now no scope for further savings which do not have a direct effect on structural maintenance standards".<sup>109</sup>

Grass cutting, road sweeping, gully emptying and the maintenance of traffic signs and signals fall under the category of 'cyclic', 'routine' or 'general' maintenance and during the late 1970's and early 1980's authorities concentrated cuts on these items in order to attempt to protect structural maintenance (ie renewal, resurfacing and patching of carriageways, reconstruction and maintenance of footways, the maintenance of structures and drainage). In particular, cyclic maintenance which was seen as having 'amenity' value was cut from programmes which were widely reduced to include only work which was required to maintain safety standards implied by statutory obligations. By the early 1980's many authorities considered that this category of maintenance had been reduced to minimum acceptable levels. As Hereford and Worcester County Council stated in 1981:

"In recent years the standards adopted for grass cutting of verges, sweeping and cleansing and gully emptying have been reviewed and reduced to an absolute minimum. The scope for further economies on these items is very limited without prejudicing road safety".

In 1980 Cleveland County Council reported a 15% cut in expenditure on cyclic maintenance and stated:

"It is not known at this stage if these cuts have reduced standards below an acceptable or even dangerous level".<sup>111</sup>



In 1984 Cheshire County Council reported that ...."general maintenance is now at the lowest level commensurate with statutory responsibilities".<sup>112</sup>

In addition, there are certain items in maintenance budgets over which authorities have less control, in particular winter maintenance and street lighting. Energy costs represent a significant burden on authorities and, of course, authorities have no option but to pay their electricity bills. However, authorities have pursued programmes to convert their street lights to more energy efficient sodium illumination in order to reduce energy costs so the scope for further savings on this item have been largely exhausted.

Therefore, by the early 1980's local authorities were, in general, in the position that any further reductions in maintenance expenditure would have to effect structural maintenance. Figure 20 shows trends in the total and composition of maintenance expenditure in real terms since 1979/80 in seven of our sample of shire counties for which comprehensive data was obtained. Figure 20A aggregates the data for all these authorities and indicates that by 1982/83 spending on routine maintenance was down to some 17% of the total and has remained broadly constant in real terms since then. Figure 20A also illustrates that the reduction in maintenance expenditure between 1982/83 and 1984/85 was achieved primarily by cuts to structural maintenance and, within this category, mainly by cuts to carriageway strengthening and resurfacing works.

The reduction in strengthening and resurfacing expenditure is a reflection of the relatively high cost per kilometre of undertaking such work (as discussed in section 2.4 above). As resources have been constrained authorities have been forced to adopt lower cost treatments in order to sustain the output of maintenance work in the face of increasing problems. Therefore, planned programmes of resurfacing works have tended to be supplanted by increased resort to localised patching and surface dressing. Figure 20 shows that expenditure on such works accounted for an increasing proportion of structural maintenance between 1982/83 and 1984/85 in several authorities.

Moreover, authorities had to establish priorities for the use of declining resources between different road types, most assigning priority to the major road network, at the expense of minor roads. Explicit priorities to this effect were developed by most of the authorities in our sample. The inevitable result was a more rapid deterioration in the condition of minor roads, as Greater Manchester MCC reported:

"...the relatively high proportion of available funds input into both principal and other classified roads has maintained the condition of these roads, but to the detriment of the vast bulk of unclassified roads which are in very poor condition".<sup>113</sup>

Another example is provided by Kent County Council:

"Whilst it has been possible to maintain the general structural standards of primary and secondary distributors this has only been achieved at the expense of minor roads, where there is increasing deterioration of carriageway haunches in rural areas and of footways in urban areas".<sup>114</sup>

In section 2.3 above we discussed the evidence from the NRMCS indicating marked deterioration of urban and rural unclassified roads since 1982/83 and the concern about this trend expressed by the House of Commons Transport Committee in 1983.

Local authorities have consistently voiced concern over the years about the implications of increasing use of cheaper carriageway treatments at the expense of full resurfacing and reconstruction. The major problem is that patching and surface dressing, while valuable in preventing major defects, cannot remedy existing structural deficiencies nor provide additional carriageway strength. Therefore, its increasing use in lieu of resurfacing and strengthening works can create further problems for the future by merely covering up structural deficiencies which will only get worse and cost even more to rectify at a future date. As we argued in section 2.4 above, savings on maintenance in the present can be more than outweighed by increased costs in the future and a short term view therefore produces economic inefficiencies. Local authorities are well aware of this problem:

"The filling of potholes, strengthening of road haunches and surface dressing are necessary to prevent disintegration of the carriageways. Despite their increasing use in lieu of longer lasting more cost effective remedies, these operations, because of their limited life, are at times economically indefensible".<sup>115</sup>

"Whilst surface dressing seals the road surface against the ingress of water, and thus minimises further deterioration, it does nothing to strengthen the road structure against..... heavy goods vehicle damage....The lack of funding for the adequate strengthening and minor widenings/realignments inevitably leads to the long-term more costly practice of patching the weak areas as they appear, until even this is no longer possible and expensive reconstruction is necessary".<sup>116</sup>

Arising from this concern about deteriorating structural conditions many authorities made TPP bids for additional resources during the period up to 1984/85 which would permit them to undertake more carriageway reconstruction and resurfacing works. An example is Cleveland County Council which proposed a four-year programme from 1982/83 to tackle the backlog of structural maintenance:

"A serious backlog of structural maintenance exists and it is now considered that this situation cannot continue..... It is proposed therefore that maintenance expenditure should be increased such that the 1974 level will be achieved over a phased 4 year period..... Initially all additional expenditure will be towards necessary structural work but in later years it is aimed to restore non-structural elements of maintenance to the standards established by the County Council in 1976".<sup>117</sup>

The Council's increasing TPP bids between 1982/83 and 1984/85 reflected this planned four-year programme, as illustrated in Figure 11A. However, it can be seen that maintenance accepted expenditure remained relatively constant in real terms, falling increasingly behind the bid; thus, in 1984/85 accepted expenditure was 81% of bid compared with the shire county average of 94%. The Council did increase maintenance expenditure in 1982/83 (partly due to the effects of the 1981/82 winter) but subsequently, it was unable to sustain the level of spending required to implement the four-year programme (Cf Figure 3D). Figure 20D shows the extent to which Cleveland increased expenditure on reconstruction and resurfacing after 1982/83 to comprise an increasing proportion of total spending but, as we discussed in the previous section, the impact of expenditure targets and block grant penalties prevented increases in spending notwithstanding the priority given to road maintenance and in spite of an increase in TSG.

A further example of an attempt to pursue an enhanced programme of structural maintenance is provided by Avon County Council. The Council proposed a 10 year programme commencing in 1984/85 to arrest the deterioration in the network measured by its monitoring surveys and to restore 'basic minimum standards'. Such a programme was seen as supported by the findings of the House of Commons Transport Committee. However, the Council's increased TPP bid (Fig 9A) was not accepted in full (92% compared with the shire county average of 94%) and ".....the Block Grant Penalty position .... prevented the County Council from meeting the accepted maintenance expenditure level for 1984/85..."<sup>119</sup> Indeed, commenting more generally on the prospects for its 'ten year restoration programme', the Council argued that:

"This enhanced level of expenditure will not take place, however, in a situation where any increase in expenditure would be expected to be negated by substantial grant penalties".<sup>120</sup>

The deterioration in the structure condition of local roads due to cuts in maintenance spending and increasing restraint on revenue spending led some authorities between 1982/83 and 1984/85 to consider programmes of highway reconstruction financed from capital expenditure. Increasing resort to such programmes illustrates the problem of inadequate maintenance leading to a requirement for more expensive treatments in the longer run. Under the system of capital expenditure control introduced in 1981/82 the definition of 'prescribed capital expenditure' included work involving substantial improvements in highway standards in respect of strength, width and alignment.<sup>121</sup> Therefore, where the reconstruction of highway carriageways involves such an element of improvement authorities can include schemes in their capital programmes to be financed by borrowing within capital allocations or by capital receipts. The need for such schemes has been expressed in the following terms by Kent County Council:

"In addition to the normal cyclic and structural maintenance programmes, which continue to be the largest element in the transportation budget, there is a need for urgent intervention on critical sections of the main traffic routes where the structure is likely to fail without early attention. The critical condition of such sections is often the result of inadequate routine maintenance in the past due to limits on expenditure. The Department of Transport has embarked upon a comprehensive reconditioning programme on its own roads and Kent County Council is acting with the same urgent resolve to recondition failing sections of the highway network which contribute to regional traffic networks."<sup>122</sup>

Kent drew up a 'Reconditioning Programme' of 30 million (at November 1982 prices) to be spread over five years from 1982/83 to 1986/87. Cleveland County Council estimated the need for capital expenditure on schemes to rectify deterioration due to insufficient past maintenance to be in excess of £20 million, and made TPP bids of about £1.2 million (1982/83 prices) each year from 1982/83 to 1984/85.<sup>123</sup> Cheshire County Council adopted the practice of financing from capital reconstruction schemes in cases where the incremental debt charges were less than the direct revenue costs of alternative treatments.<sup>124</sup>

However, the Government's expenditure controls imposed restraints on capital expenditure between 1982/83 and 1984/85 which limited

the scope for increased spending on capitalised reconstruction schemes. In the first place, the increasingly severe block grant penalties applied to debt charges on capital expenditure and this imposed constraints on the size of new capital programmes. In the second place, although capital expenditure accepted for TSG support (and reflected in capital allocations) increased in real terms between 1982/83 and 1984/85 by about 14% nationally (and by some 21% in the shire counties) it fell increasingly behind authorities' bids, from 83% down to 68% nationally (86% down to 77% in the shire counties).<sup>125</sup> The implications of these restraints can be seen in Kent. The Council's TPP bids for 1983/84 and 1984/85 included reconditioning works in both revenue and capital elements. The proportion of the maintenance bid accepted increased from 83% in 1983/84 to 94% in 1984/85 but the proportion of the capital bid accepted remained at 83% in both years. The combination of limits on capital allocation and block grant penalties on revenue spending meant that the whole reconditioning programme could not be accommodated within the revenue budget for maintenance and the capital programme covered by capital allocation. Consequently, the Council had to use capital receipts (generated from the sale of land and assets) to finance part of the reconditioning programme (41% in 1983/84 and 31% in 1984/85). As the Council stated:

"... the County's programme is generally in line with the Government's provision but the expenditure on Reconditioning works is now funded from both capital and current expenditure and from capital receipts, which have been used to make up the shortfall of expenditure not accepted by the Government. The inclusion of Reconditioning works in the capital programme means that improvement schemes have had to be delayed to keep capital expenditure within cost limits".<sup>126</sup>

Kent County Council was fortunate in having capital receipts available to use on highway reconditioning. Many authorities were less able to apply capital receipts to highways expenditure, such as Cleveland, and therefore were more constrained by capital allocations in pursuing reconstruction work.

Underlying these responses by local authorities in terms of policies, priorities and outputs, there were also developments related to the achievement of more effective and efficient use of available resources in meeting road maintenance needs. Most authorities now use technical assessment systems to provide an objective measurement of road conditions and, therefore, a more reliable basis for ensuring that resources are directed to meet priority needs. The two main systems in use are MARCH (Maintenance Assessment Rating and Costing of Highways) and CHART (Computerised Highway Assessment of Ratings and Treatment) which rely on detailed visual surveys of road conditions over specific

lengths of the highway network. These systems produce formalised defect rankings which, in conjunction with specified intervention levels, allow priority listings to be produced as a basis for directing resources to areas of greatest need. Most of the authorities in our sample use either MARCH or CHART as a basis for allocating the available budget for structural maintenance, for measuring trends in road conditions and for contributing results to the NRMCS. Some (e.g. Cheshire, Cornwall, Kent) also employ deflectograph testing to measure structural strength of the carriageway, and SCRIM (Sideways Force Coefficient Routine Inspection Machine) to measure the residual skid resistance of the road surface.

However, the use of such formal assessment systems is concentrated on principal and the more heavily-trafficked roads and can be associated with the tendency of authorities to give priority to such roads, at the expense of the minor road network, within constrained structural maintenance budgets. Standards on minor roads tend to depend more on the judgements of maintenance engineers based on less comprehensive surveys.<sup>127</sup> An important factor limiting the coverage of the assessment systems is the heavy demands which they place on staff resources and progress in their implementation cannot have been helped by restraints on authorities' revenue expenditure which placed pressure on staff costs. For example, there is evidence that the implementation of MARCH in Hereford and Worcester was hindered by lack of staff resources,<sup>128</sup> and difficulties in surveying were experienced in Norfolk in 1984 because supervisory staff had to be transferred to preparing tender documents for maintenance schemes which were put out to tender under the terms of the Local Government, Planning and Land Act 1980.<sup>129</sup>

Concern on the part of local authorities about the implications of resource constraints and about the issue of effective and efficient resource allocation to achieve appropriate standards, led the Local Authority Associations (for County, District and Metropolitan Councils) to establish a 'Joint Study of Highways Maintenance' in the early 1980s which resulted in the publication in 1983 of a 'Code of Good Practice' of highway maintenance.<sup>130</sup> This 'LAA Code' in effect revised and updated the recommendations of the Marshall Committee Report on Highway Maintenance of 1970 in the light of the implications of subsequent resource constraints. The Code sets out a framework for budgeting based upon the development of inventories of highway elements to be maintained, recommended frequencies and service levels for routine maintenance, formally defined intervention levels for the main structural activities, and the use of the assessment systems described above. The recent investigation by the Audit Commission into local authority highway maintenance found that many authorities have now fully or partially adopted the Code but that there is nevertheless

still scope for considerable progress in applying its recommendations particularly to achieve an appropriate level of resource allocation to structural maintenance.<sup>131</sup>

A specific finding of the Audit Commission's investigation was that there is a tendency for authorities to 'over-provide' for routine maintenance relative to the LAA Code's recommendations producing an overspend on routine maintenance at the expense of structural work.<sup>132</sup> This finding is somewhat at odds with the views expressed by several authorities in our sample to the effect that, by the mid-1980s, standards of routine maintenance were at or below those believed to be the minimum consistent with safety considerations. The Audit Commission's report emphasises the need and scope for the allocation of more resources to structural maintenance but our analysis has indicated the extent to which authorities attempts to do this were hindered by the government's expenditure restraints. Based upon the Audit Commission's study it is possible to conclude that there was also scope for authorities to achieve more structural maintenance work within the available resources by certain improvements in the efficiency of use of resources and effectiveness in their allocation.

### 3.2.5 Conclusion: Towards Reform of the TSG System

In a context of declining maintenance expenditure and growing concern about the adequacy of such expenditure in relation to demonstrated needs, the Government introduced its reform of the TPP/TSG system which discontinued TSG support for local transport current expenditure and restricted it to capital expenditure on roads designated as 'of more than local importance'.<sup>133</sup> The Government's main concern was with the role of TSG in promoting expenditure patterns by local authorities (particularly the GLC and metropolitan counties) at odds with the Government's own policies and spending plans:

"TSG was intended to support local transport expenditure generally. But in recent years authorities have spent more on transport revenue expenditure (particularly on public transport revenue support) than provided in the Government's public expenditure plans, while they have underspent the provision for transport capital expenditure. The Government wishes to concentrate the extra support provided through TSG on highways capital expenditure which is of more than local importance, in particular investment on roads which form part of the primary route network of major through routes, important urban roads, and bypasses and relief roads which relieve communities of the effects of heavy through traffic."<sup>134</sup>

We have assessed this reform elsewhere (Sanderson, 1988B, section 2.4) and concluded that the underlying problem was the incompatibility between the 'block' supplementary grant to be used at the discretion of local authorities to promote local transport policies, on the one hand, and the increasing concern of the Government to control local transport expenditure and achieve conformity with detailed central spending plans on the other. Where the exercise of local discretion produced policies and priorities significantly at odds with those of the Government (as was the case in London and the metropolitan areas) the Government sought to limit the impact of such discretion and the reform of the TSG system can be seen as part of a broader programme subsequently involving also the 'nationalisation' of London Regional Transport and the abolition of the GLC and MCCs.

However, our analysis suggested that TSG support was, in fact, a secondary factor in the explanation of trends in expenditure relative to government plans and provisions. Overspending on public transport by the GLC and MCCs, which was the overriding concern of the Government, was the outcome of the policies and priorities of those authorities and probably would have occurred irrespective of the availability of TSG.<sup>135</sup> On the other hand, underspending on roads capital expenditure can be explained primarily in terms of the impact of current expenditure restraints on debt charges and the operation of the capital expenditure control system particularly in respect of capital receipts.<sup>136</sup> Essentially, the reform of the TSG system can be explained in terms of the fact that it had become incompatible with the Government's broader approach to, and objectives for, local government expenditure. As an unhypothecated supplementary grant TSG served to support the potential of authorities to produce spending outcomes at odds with the Government's objectives and, while not being the prime factor, did to some extent blunt the Government's efforts to achieve greater control over local transport expenditure, especially in London and the metropolitan areas.

The issue of road maintenance appears not to have figured prominently in the deliberations. We have seen that by 1984/85 local authorities' expenditure on maintenance had been reduced to about the level of the Government's provision, in contrast to the significant overspend on public transport and underspend on road construction. In the Government's view this level was adequate in relation to need if local authorities achieved efficiency improvements. This view was not endorsed by local authorities who supported their arguments and requests for more resources with evidence of continuing deterioration in road conditions.

Our analysis of trends in road maintenance expenditure over the period to 1984/85 supports the conclusion that the role of TSG



was secondary to that of the broader system of controls on current expenditure, particularly expenditure targets and grant penalties. The real terms decline in maintenance expenditure between 1981/82 and 1982/83 was due primarily to the restraint exercised by targets and penalties although authorities' responses to these restraints did reflect local judgement about the priority to be assigned to road maintenance relative to other services. The role of TSG was mainly evident in two respects. First, as a more significant element supporting expenditure in the GLC and MCCs it may have served somewhat to blunt the impact of broader expenditure restraints; thus, the 'overspending' on maintenance in these authorities (taken together) in 1984/85 contrast with the 'underspend' (relative to accepted expenditure) in the shire counties. Second, there is evidence that year-to-year changes in TSG had some impact, particularly on shire counties, with reductions in grant exacerbating the effect of penalties. The 1983/84 TSG settlement in particular caused hardship for several shire authorities.

On the basis of trends in road maintenance expenditure up to 1984/85 there were clear grounds for certain reservations about the impact of the loss of TSG support. The main source of concern was the increasing degree of underspend in the shire counties, which were responsible for some 61% of total maintenance expenditure by English local authorities in 1984/85. Since this underspend was primarily attributable to their exposure to the restraints exercised through the block grant penalty system, reform of the TSG system would make road maintenance expenditure more dependent upon authorities' responses to the Government's expenditure restraints. The two main variables would be the degree of restraint imposed by the Government and the relative priority assigned by authorities to road maintenance in the budgetary process.

In fact, the House of Commons Transport Committee indicated in 1984 that they held certain reservations about the implications of the reform of the TSG system for local road maintenance. They emphasised the need to ensure that adequate provision was made through Rate Support Grant for transport current expenditure and suggested that consideration be given to the reclassification of structural maintenance as capital expenditure.<sup>137</sup> As to the future impact of expenditure restraints their reservations are implied in the following:

"It seems entirely wrong that adequate standards of road maintenance should depend upon the willingness of local authorities to exceed Government expenditure targets, a willingness which would be more constrained in the future."<sup>138</sup>

Indeed, the House of Commons Committee had considered the issue of the adequacy of the system for supporting local road maintenance expenditure in their previous inquiry into the road maintenance problem and had found a difference of opinion between the local authority associations on the TSG system. On the one hand, the Association of County Councils was critical of the "...cumbersome farrago of 'controls'..." operated through the TPP/TSG and advocated the absorption of maintenance into the broader block grant system, arguing that maintenance would receive the appropriate degree of priority.<sup>139</sup> On the other hand, the Association of Metropolitan Authorities supported the retention of TSG support for maintenance, expressing reservations about the full exposure of maintenance to the 'vagaries of block grant.'<sup>140</sup>

With these issues and arguments in mind we can now examine trends in local road maintenance expenditure since the termination of TSG support from 1985/86.

### 3.3 Local Road Maintenance Since Reform of the TSG System

#### 3.3.1 Government Provision for Local Road Maintenance since 1985/86

With the termination of TSG support for local authorities' current expenditure on road maintenance and safety, these items of expenditure were incorporated fully into the general block grant system. Therefore, from 1985/86 a separate grant-related expenditure assessment (GRE) was devised for road maintenance (including road safety). Whereas previously the GRE for transport current expenditure (net of TSG) had been assigned to authorities primarily on the basis of population, the new maintenance GRE is allocated to authorities in three components - normal maintenance, winter maintenance and street lighting - on the basis of formulae intended to reflect spending needs for the different heads.<sup>141</sup>

The normal maintenance component (76% of the total GRE in 1985/86) is allocated on the basis of road lengths. A multiplier is applied to take account of higher maintenance costs on principal roads and traffic and population weighted multipliers are used to reflect the higher costs of maintaining roads in built-up areas. The winter maintenance component (8%) is allocated on road lengths weighted by the proportion of roads that are built up and by weather factors related to the average annual number of days with lying snow and frost. The street lighting component (16%) is allocated in proportion to the lengths of principal and other roads in built-up areas.<sup>142</sup>

Therefore, since 1985/86 authorities have received grant support for road maintenance as part of the general block grant which is

intended to support local authority services as a whole; authorities retain discretion to determine their own priorities within and between services in the light of their judgement of local needs and circumstances, and having regard to their statutory obligations.<sup>143</sup> The formulae relating to individual components of an authority's total GRE do not provide a basis for calculating normative total expenditure standards for individual services. However, an authority's total GRE represents the level of total expenditure that the Secretary of State considers is required for it to provide an 'appropriate' standard level of service taking into account the characteristics and needs of its area.

The GRE for an authority is one of the key determinants of its block grant entitlement representing the basis for compensation of variation in need between authorities. Variation in rateable resources is compensated for by a 'grant-related poundage' (GRP) schedule which specifies the rate or precept which an authority is assumed to levy for each level of total expenditure, given its GRE. An authority's block grant entitlement is then the difference between its total expenditure and the amount it is assumed to raise by levying a rate equal to its GRP for that level of expenditure. The slope of the GRP schedule determines the relationship between an authority's block grant and its total expenditure, given its GRE. A 'threshold' of total expenditure above GRE has been defined and if expenditure exceeds this threshold (commonly about GRE + 10%) block grant entitlement is affected because the slope of the GRP schedule steepens (ie authorities are assumed to levy higher rates).<sup>144</sup>

In 1985/86 the Government retained the system of expenditure targets and grant penalties; indeed, the severity of the penalties (especially for modest overspending up to 2%) was increased substantially. However, following considerable criticism of the target and penalty systems (notably from the Audit Commission, 1984) the Government abandoned it in 1986/87 replacing it with a modification to the block grant formula which built grant penalties into the basic system. Specifically, the slope of the GRP schedule was increased significantly, requiring authorities to finance from rates a higher proportion of marginal increases in expenditure; in fact, for most authorities, increases in total expenditure now result in an actual loss of grant (rather than a lower rate of increase as previously). The rate of loss of block grant increases when expenditure exceeds the 'threshold' above GRE.

The expenditure restraints operated through the block grant system, and through the target and penalty system up to 1985/86, have resulted in an increasing proportion of local government expenditure being financed from local rates, which provided authorities with the only 'degree of freedom' if they wished to

spend in excess of government targets. Increasing concern on the part of the Government about the use of this 'degree of freedom', particularly by certain 'high spending' authorities, led to the introduction of 'rate-capping' following the Rates Act 1984. This legislation gave powers to the Secretary of State to specify a maximum rate for those authorities whose expenditure was considered to be 'excessive having regard to the general economic conditions', and these powers have been used in each year since 1985/86 to 'rate-cap' 31 separate authorities, mainly in London and the metropolitan areas.<sup>145</sup>

Since 1985/86, therefore, road maintenance spending by local authorities has been subject to the same consideration as spending on other services within the framework of this control system for current expenditure. TPP bids are not required and the Department of Transport does not specify 'accepted expenditure' levels. Authorities' decisions about the level of road maintenance spending depend upon their perception and prioritisation of needs, relative to those for other service expenditure, in the context of an expenditure control system which determines the amount of block grant support for any level of total expenditure and, hence, also the resources required to be raised from local ratepayers. Therefore, authorities must balance a range of considerations relating to political priorities, local service needs, the burden of spending on local ratepayers and, possibly, the prospect of selective rate limitation.

A further development which is relevant to the analysis of local road maintenance since 1985/86 is the abolition of the Greater London Council and metropolitan county councils in March 1986 which resulted in all road maintenance activities being transferred to the London boroughs and metropolitan districts. Previously, road maintenance responsibilities in London had been divided between the GLC and the boroughs but in the metropolitan counties certain districts undertook maintenance work only under agency agreements with the counties. Since 1986/87 all road maintenance in these areas has been undertaken by authorities with responsibilities for most local government services and, therefore, decision-making about road maintenance budgets takes place in a broader context in which a wide range of services are competing for scarce resources.

Since 1985/86 the Government has indicated an increasing degree of concern about the need to ensure adequate levels of road maintenance expenditure. In setting provision for 1985/86, the Government stated:

"Provision for road maintenance expenditure has been increased by 8 per cent in 1985/86, reflecting the priority

the Government gives to maintaining the local road network."<sup>146</sup>

However, after taking account of inflation as measured by the DTp's Maintenance and Lighting Price Index, provision for 1985/86 in real terms was at broadly the same level as the previous year (Figure 4). Moreover, it was slightly below local authorities' actual expenditure in 1984/85 thus implying a continuation of the trend of declining real terms expenditure which had been evident since 1981/82.

In addition continued restraints on revenue expenditure in 1985/86 placed authorities under increasing pressure. First, the downward trend in block grant support continued with a 6% reduction in real terms in 1985/86. Second, the system of expenditure targets and grant penalties was continued in 1985/86, with an increase in the severity of penalties for overspending. Thus, in its circular to authorities on the preparation of TPP submissions for 1985/86 the Department of Transport advised:

"Council's revenue spending on transport . . . . . (is) subject to the expenditure guidance (targets) issued by the Government. In formulating their transport programmes authorities should have regard to their past expenditure targets and the continuing need to constrain revenue expenditure."<sup>147</sup>

This advice can be seen as to some extent conflicting with the subsequent statement in the Public Expenditure White Paper quoted above and clearly would not have served to encourage local authorities to increase their spending on road maintenance. In addition, of course, authorities no longer had support from TSG for road maintenance expenditure.

In fact, in the face of these pressures, authorities' actual expenditure declined in real terms in 1985/86 resulting in an underspend relative to provision for the first time since 1980/81. This brought the total reduction in maintenance expenditure in real terms since 1981/82 to 6%, with expenditure down to about the same level as five years previously (Figure 4).

In 1986/87 and 1987/88 the Government increased provision for road maintenance significantly in real terms - by 12% in 1986/87 and a further 7% in 1987/88. In the 1986 Public Expenditure White Paper the Government argued that:

"This exceptional increase has been made to enable authorities to tackle the backlog of maintenance that has built up partly due to recent unfavourable weather

conditions. It reflects the high priority the Government gives to maintaining the local road network."<sup>148</sup>

Similarly, the following year the Government argued that the increase in provision...

"reflects the Government's continuing commitment to ensuring that roads are kept in satisfactory condition. It should enable authorities to clear the backlog of maintenance on their roads."<sup>149</sup>

However, notwithstanding these increases in provision the Government continued to exercise restraints on local authorities' expenditure which clearly presented them with difficulties. Thus, the contribution of block grant support for local government expenditure continued to decline, from 35% of relevant expenditure in 1985/86 to 32% in 1987/88.<sup>150</sup> The increase in provision in 1987/88 was not matched by an equivalent increase in the maintenance GRE; as a result the latter fell short of the provision by 4.2%. This implies the belief on the part of the Government that authorities do not need to spend up to the level of provision in order to provide an appropriate level of service and in fact contributes to the restraint on block grant. It is indeed somewhat disingenuous on the part of the Government on the one hand to emphasise its commitment to road maintenance on the basis of increased provision and, on the other hand, to imply through the level of GRE that authorities do not need to spend the provision in order to achieve adequate standards.

Restraints on authorities' expenditure were maintained from 1986/87, in spite of the abolition of the target and penalty system, by the modification of the block grant formula to impose negative marginal grant rates, as discussed above. In such a system increased expenditure produces a rapidly-escalating rates burden and the project of rate-capping if expenditure exceeds a level of about GRE + 12%. In a situation where local authorities face pressing needs in relation to a wide range of services there will clearly be difficulties in increasing road maintenance spending in the context of the above expenditure restraints.

In fact, total road maintenance expenditure did increase in real terms in 1986/87 by some 9% but this did not match the increase in provision, producing an underspend of about 4%. However, 1987/88 budgets indicate a 2% reduction in spending in real terms and an underspend against provision of some 12%. This increasing degree of underspending on road maintenance contrasts with continued overspending on certain other services such as education, social services, police and fire and indicates that local authorities are experiencing difficulties in allocating additional resources to road maintenance in the context of expenditure restraints, in the face of competing demands and in

the absence of TSG support for local transport current expenditure.

These factors have attracted comment from the House of Commons Transport Committee which has been critical of the discrepancy between the Government's provision for road maintenance and the resources available to local authorities to achieve the increase in expenditure which the Committee considers to be urgently required. The underlying problem is seen as the system of local government finance:

"The difference between provision and GRE subhead totals for road maintenance .... is only one example of inconsistencies between the PEWP and RSG figures and points to a much wider problem of assessing and determining local authority expenditure. We believe that the complexity surrounding local authority finance has long passed the stage where refinement can improve grant distribution."<sup>151</sup>

In a context of expenditure restraints and with GRE set below provision, the Committee indicated that:

"... given that the amount spent on each service remains a matter for individual authorities to decide, and that they face many competing demands for money, we are sceptical about how far expenditure on roads will follow the Government's provision."<sup>152</sup>

The Committee has also expressed the view that the loss of TSG support for current expenditure cannot be helpful in achieving increased priority for road maintenance and that the Government should reconsider using TSG to support maintenance expenditure.<sup>153</sup>

Therefore, the trend in local authorities' road maintenance expenditure relative to central government provision since 1985/86 illustrates the influence of the expenditure control systems and of local authorities' decision-making about service priorities within these systems. As to the relative importance of these factors we have discussed the conflict between central government and local authority perspectives above.<sup>154</sup> In terms of the significant underspend which emerged in 1987/88 there is a clear discrepancy between the Government's argument that local authorities are simply not according road maintenance sufficiently high priority and the view of the Association of Metropolitan Authorities that it is unreasonable to expect highway authorities to increase their spending on road maintenance at the expense of other services when provision for local authority current expenditure as a whole is being cut in real terms.<sup>155</sup>

In the next section we will examine trends in local authorities' road maintenance expenditure in more detail in order to shed light on the relative importance of these factors.

### 3.3.2 Implications for Local Authorities

As indicated above and as shown in Figure 4 road maintenance expenditure declined in real terms and fell below the level of provision nationally in 1985/86. This is also shown relative to GRE in Figure 5A but Figures 5B-D indicate that the degree of decline in expenditure differed between local authority classes. Thus, most of the decline in expenditure was accounted for by the shire counties which experienced a 2% reduction in real terms in spite of the fact that the maintenance GRE in 1985/86 represented a 2% increase in real terms over their 1984/85 'accepted expenditure'. On the other hand, expenditure in the London and Metropolitan counties declined only marginally in 1985/86 while their GREs were reduced from the previous year's accepted expenditure.

In the explanation of these trends it would seem that the loss of TSG support is a secondary factor to the influence of expenditure targets and grant penalties. As we saw in section 3.2.2 above TSG played a more important role in London and the metropolitan counties in supporting transport expenditure and the ability of authorities in these areas almost to sustain maintenance expenditure in spite of the loss of TSG support and in spite of the reduced level of provision suggests that the reform of the TSG system had little immediate impact. Nevertheless, 1985/86 was the final year in the life of the GLC and metropolitan counties and the abolition of these authorities certainly complicates the analysis of the longer term impact of the reform of the TSG systems on maintenance expenditure.

The conclusion that expenditure restraints exercised through the current expenditure control systems are the main explanatory factor is supported by the decline in maintenance expenditure in the shire counties in the face of increased 'provision'. However, the impact of the loss of TSG support cannot be isolated to the extent that these authorities suffered a decrease in block grant support in 1985/86 of some 6.5%<sup>156</sup> and therefore experienced additional restraint in the absence of TSG. Nevertheless, the

trend in expenditure targets and grant penalties shown in Figure 19 would appear to be most relevant to the analysis.

The picture for the GLC in 1985/86 (Figure 19B) is complicated by the loss of responsibility for public transport so we shall concentrate on the metropolitan counties (Figure 19C) and the shire counties (Figure 19D). It can be seen that GREs were increased in 1985/86 to accommodate the former TSG component but



whereas the MCCs' collective target was increased by some 7% in real terms from 1984/85 (and was above GRE), the shire counties' target was reduced by about 1% in real terms, and therefore fell even further below GRE than in 1984/85. The metropolitan counties could increase their total spending in real terms in 1985/86 by nearly 3% and still avoid penalties whereas the shire counties would have to decrease their total expenditure by almost 2% in real terms in order to avoid penalties. The changes in road maintenance expenditure in 1985/86 (with most of the decrease occurring in the shire counties) are consistent with these trends given, in addition, the larger range of services competing for resources in the shire authorities.

Trends in our sample authorities support this general picture. As regards the metropolitan counties, Figures 6-8 illustrate the position in Greater Manchester, South Yorkshire and West Midlands respectively. Greater Manchester (GMC) and West Midlands (WMC) present something of a contrast because the former experienced an increase in the maintenance GRE over the previous year's accepted expenditure whereas the latter experienced a decrease. The effect of this was reinforced by targets, GMC's being set somewhat above the previous years' expenditure while WMC's was at about the same level. This picture was reflected in the increase in maintenance spending in GMC and the decrease in WMC. Nevertheless, the fact that WMC's expenditure still exceeded its maintenance GRE in spite of the decrease, while GMC's was still below GRE in spite of the increase, suggests the role of local priorities. In particular, in WMC the excess of maintenance spending over GRE in 1985/86 contrasts with total expenditure some 7% below the total GRE. South Yorkshire's target in 1985/86 was increased slightly from 1984/85 but the more severe penalty regime resulted in reduced expenditure and this is reflected in the decline in maintenance expenditure (Figure 7).

The picture in South Yorkshire and West Midlands suggests that the reform of the TSG system may have had some impact. Thus, in South Yorkshire (Figure 7), while total expenditure remained significantly above GRE in 1985/86, the decline in maintenance expenditure took it from above the level of accepted expenditure in 1984/85 to below the GRE in 1985/86. On the other hand, West Midlands (Figure 8) illustrates the indirect effect of the reform of the TSG system with the new GRE for 1985/86 being some 12% less than accepted expenditure in 1984/85 thus implying a loss of grant support.

Changes in maintenance expenditure and 'provision' in 1985/86 in our sample of shire counties are illustrated in Figures 9-17. The redistributive effect on 'provision' (accepted expenditure in 1984/85 to GRE in 1985/86) of the reform of the TSG system can be seen with the biggest gains experienced by larger counties such as Hereford and Worcester, Norfolk and Nottinghamshire,

which have high road mileages relative to population and therefore benefit from GREs in which road length is the major basis for need assessment. More generally, the change increased provision for the shire areas at the expense of London and the metropolitan areas as we saw in Figure 5. Smaller, more heavily populated shire counties, such as Cheshire and Cleveland also experienced reduced provision as a result of the change.

In general terms, the shire authorities were unable to increase maintenance expenditure to match the higher level of 'provision' embodied in GREs in 1985/86; indeed, the overall expenditure trend continued downward in real terms, as we have seen. Nevertheless, those authorities in our sample which benefitted from an increase in 'provision' in 1985/86 tended either to maintain or increase spending in real terms (eg Avon, Hereford and Worcester, Norfolk, Oxfordshire) while those experiencing a decrease in 'provision' tended to decrease spending (eg Cheshire, Kent). However, the authorities which increased spending did not do so sufficiently to match their GREs in 1985/86, in Hereford and Worcester (Figure 13) and Norfolk (Figure 15), which experienced the largest increases in 'provision', expenditure was, respectively, 19% and 23% below GRE in 1985/86 in spite of the increases.

This picture supports the evidence on the restraining impact of targets and penalties. Looking at Hereford and Worcester, for example, in more detail, the increased severity of penalties in 1985/86, particularly for an overspend of target within 2%, led the Council to decide not to exceed its target. However, this meant that, after accommodating pay and price increases and commitments, there was no scope for additional spending by any Committee. It was only through the use of the reserve funds established by the Council that increased road maintenance expenditure could be achieved without attracting penalty.<sup>157</sup> Avon County Council had proposed, in 1984/85, an increase in its maintenance budget by 10% per annum to deal with the backlog of structural maintenance:

"This enhanced level of expenditure will not take place, however, in a situation where any increase in expenditure would be expected to be negated by substantial grant penalties. As a result, in 1985/86, the County Council has again been unable to fund its desired level of expenditure on highway maintenance..."<sup>158</sup>

Finally, Kent County Council had to reduce its 1985/86 budget for cyclic and structural maintenance by some 12% from previously planned levels due to the restraints imposed by a target some 2% below the previous years' expenditure and 8% below its GRE. As regard additional maintenance expenditure to meet the County's assessed needs:

These increases in maintenance will only be possible if Government increases the County Council's expenditure targets and RSG."<sup>159</sup>

The picture in Cleveland County Council, however, illustrates the role played by local priorities within the context of the broader influence of expenditure restraints. In 1985/86 Cleveland experienced a real terms reduction in 'provision' due to the reform of the TSG system with the maintenance GRE nearly 10% below the 1984/85 accepted expenditure (Figure 11). Moreover, the Council's target for 1985/86 was some 5% below expenditure in 1984/85 and 2% below its GRE. In these circumstances it was not possible to agree requests from many services for additional resources; in particular, a proposed increase of over 30% in the maintenance budget to achieve a programme to restore satisfactory standards could not be accommodated. Nevertheless, the priority given by the Council to road maintenance is indicated by an increase in expenditure in real terms in 1985/86 to a level in excess of the GRE.<sup>160</sup>

We have seen that the downward national trend in road maintenance expenditure was reversed in 1986/87 with an increase of 9% in real terms (Figures 4, 5A). Figures 5B-D show that this increase was due entirely to the shire counties and metropolitan authorities, expenditure in London remaining virtually static. However, it is notable that the increases in spending in the shire and metropolitan areas failed to match the increases in GRE, resulting in a significant underspend nationally against the Governments' provision. The degree of underspend increased in 1987/88 as expenditure (budget data) declined in London and the shire counties, in the latter to 12% below GRE.

The picture in London and the metropolitan areas in 1986/87 and 1987/88 is, of course, influenced by the abolition of the GLC and metropolitan counties. The decline in maintenance expenditure in London in real terms since 1985/86 suggests that such expenditure has attracted rather lower priority in the London boroughs in a context of competing demands from a wide range of services, with several authorities subject to rate-capping. Trends in the metropolitan districts also indicate the impact of expenditure restraints operated through the modified block grant abatement system (which replaced targets and penalties in 1986/87) and, within these restraints, local decisions about priorities where maintenance is now competing for resources against such services as housing, education, social services and leisure and community services.

The impact of expenditure restraints due to the introduction of negative marginal block grant rates in 1986/87 has been emphasised by the West Midlands Regional Forum. The effect was

particularly severe in 1987/88 because the total of GREs was set below national expenditure provision, reflecting the Government's view that local authorities do not need to spend at the level of provision. Since an authority's GRE is central in determining its block grant entitlement, the Government's failure to increase GREs in line with provision presented authorities with considerable difficulties in spending at the higher level in view of the loss of block grant (and corresponding increase in burden on ratepayers) resulting from increases in expenditure. A report to the West Midlands Regional Forum commented as follows on the prospects for authorities of achieving increases in maintenance expenditure in line with the Government's provision:

"The fact is that, due to the constraints placed upon local authorities' current expenditure by the Government's Rate Support Grant system, it is not possible for this increased level of expenditure to be achieved without a severe impact on future rate levels or reductions of expenditure in other policy areas. There is a need for the Government to revise the grant system to enable local authorities to incur expenditure on road maintenance up to the PESC provision. The operation of the current system can only lead to the continuing deterioration of local roads in the Region."<sup>161</sup>

There is evidence from our sample metropolitan district authorities of the impact of expenditure restraints supplemented by the role of local decisions about relative service priorities. Manchester City Council achieved a real increase in maintenance spending in 1986/87 over the level of the former metropolitan county for its area. A further 7% real increase was originally budgeted for 1987/88 but a budget review exercise necessitated by rate-capping reduced this increase to 5%. However, Figure 21A indicates that maintenance expenditure is below GRE while the Council's total expenditure is somewhat above GRE (8.4% in 1986/87 on CIPFA estimates <sup>162</sup>) indicating problems in achieving priority for maintenance spending relative to other services. Such problems are referred to by the Council as follows:

"A particular problem relates to the funding mechanism. Maintenance is financed from revenue rather than capital resources, and is therefore subject to the constraints imposed on Local Government by the Block Grant System. In addition, the GRE assessment system does not fully take into account the regional role of Manchester. The accommodation of increasing demands generated by the housing, education and social services places considerable pressure on the availability ... (of) ... funds for maintenance ..... Whilst spending is increasing in real terms it is still insufficient."<sup>163</sup>

Sheffield City Council's maintenance programme for 1986/87 had to be reduced to 62% of that originally proposed in the light of the level of the maintenance GRE and Figure 21B shows that expenditure in 1986/87 was indeed close to GRE.<sup>164</sup> However, the Council's total expenditure in that year was some 20% in excess of GRE (on CIPPA estimates <sup>165</sup>) indicating that the Council assigned rather greater priority to meeting expenditure needs for other services. This excess of spending over GRE resulted in rate-capping in 1987/88 and revenue expenditure had to be reduced significantly. This resulted in a real terms reduction in the maintenance budget by some 55% from the level originally proposed.<sup>166</sup> Nevertheless, the shortfall of the maintenance budget for 1987/88 from GRE shown in Figure 21B compares with a total revenue budget some 7% in excess of GRE<sup>167</sup> suggesting, again, the difficulty of assigning priority to maintenance spending in a large city authority with a wide range of services all of which face pressing demands for increased expenditure.

Birmingham City Council's maintenance expenditure remained relatively constant in real terms between 1986/87 and 1987/88 although the Council had planned a significant increase (Figure 21C). In the event the 1987/88 budget was restricted by limitations placed on the Council's total revenue budget due to expenditure restraint imposed by the block grant system. The Council's approved total budget for 1987/88 was about 1.4% in excess of GRE and the fact that maintenance spending is below GRE again illustrates the role of local priorities.<sup>168</sup>

Maintenance expenditure in Solihull (Figure 21D) is above the level of GRE and this illustrates the commitment of the Council to arresting the deterioration in its roads. However, additional expenditure is desired by the Council but prevented by the block grant implications. The position in 1986/87 is summarised as follows:

"It is Council policy to increase highway maintenance funding to its 1974 level in real terms, an increase of 36% over 1985/86. Whilst this would not make immediate inroads into the backlog of work, it should at least ensure that further deterioration was prevented. However, following the announcement of the 1986/87 rate support grant, the proposed increase was reduced to 21% in cash terms. Allowing for routes taken over from the County Council, for increased local road mileage, and for inflation, these significantly reduce this increased expenditure in real terms. Further deterioration in the standards of roads and footways is inevitable."<sup>169</sup>

As regards the shire counties, our sample authorities illustrate the trend towards an increasing underspend relative to the maintenance GRE (Figures 9A-17A). This trend is particularly

marked in authorities experiencing large increases in GRE relative to the level of accepted expenditure in 1984/85, eg Hereford and Worcester (Figure 13A) and Norfolk (Figure 15A). Again there is evidence that the difficulties experienced by authorities in increasing maintenance expenditure arise from the operation of the system of block grant abatement, but within the context of this system decisions about relative service priorities also play an important role.

Avon County Council emphasise the role of the block grant abatement system in restraining expenditure in 1986/87:

"The County Council was .... heartened to hear the Secretary of State for Transport's announcement that an allowance for a 15% cash increase had been made in the Public Expenditure Plans for 1986/87 in respect of highway maintenance expenditure, and that this would be reflected in the Rate Support Grant Settlement. However, in assessing the overall financial position facing the County Council as a result of the Rate Support Grant, it was apparent that the County Council would lose some 36 million of grant in total between 1985/86 and 1986/87 if it spent at the overall expenditure levels proposed by Central Government in each year. This meant that it has not been possible to include ... (a real) ... increase in the allocation to highway maintenance."<sup>170</sup>

Hereford and Worcester County Council emphasised the impact of the degree of expenditure restraint arising from the introduction of negative marginal grant rates in 1986/87:

"At first sight the proposal to abolish targets and penalties was welcomed, particularly as one of the stated aims was to give more grant to those with a good (low) spending record. Indeed, the provisional indication was that the Council would gain grant, even after taking account of the reduction in the percentage of expenditure met by grant. The Council's optimism was enhanced by the receipt of a provisional GRE which increased by more than inflation, and more than the average shire county.

The settlement itself did not justify the earlier optimism and was, to say the least extremely disappointing. The reasons for this unexpected change in fortune are not entirely clear. A number of important changes were made which were apparently not discussed with the local authority associations. What is clear is that shire counties in general will suffer in 1986-87"<sup>171</sup>

The Council estimated that just to continue with existing policies and levels of service in 1986/87 would lead to a rate precept increase of some 13%, and to increase expenditure up to

GRE level would require a precept increase of 33%. The budget therefore had to be reduced and in such a context of restraint the Council's expenditure on road maintenance was maintained in real terms through the transfer of resources released by efficiency improvements (Figure 13A).

The influence of local priorities within the context of expenditure restraints is illustrated in the case of Cleveland County Council which has increased its maintenance expenditure in real terms since 1985/86 broadly in line with the increase in GRE, being exceptional amongst our sample authorities in this respect. We discussed earlier successive attempts by the Council since 1982/83 to pursue a four-year programme of enhanced maintenance spending to restore satisfactory standards and the extent to which this objective was frustrated by expenditure restraints, particularly the target and penalty system.<sup>173</sup> Nevertheless, the trend in expenditure illustrated in Figure 11A indicates that the Council has succeeded to some extent in sustaining its policy of increasing expenditure in real terms. In 1986/87 the Council achieved a 10% real increase in expenditure, directed at major structural works on the secondary road network, in a context where total expenditure was some 7% in excess of GRE and each additional pound of expenditure cost ratepayers 1.74.<sup>174</sup> In 1987/88 concern about the prospects of rate-capping resulted in a greater degree of restraint on expenditure and the Council maintained expenditure in real terms at about the previous year's level (Figure 11A).<sup>175</sup>

As indicated above, Cleveland is the exception in our sample in spending at about the level of the GRE for road maintenance. More generally, it would appear that maintenance expenditure tends to lose out somewhat to other services in the competition for restrained resources. Thus, of the five shire authorities whose budgeted total expenditure for 1987/88 exceeded GRE (Avon, Cheshire, Cleveland, Nottinghamshire and Oxfordshire), all but Cleveland budgeted below GRE for maintenance. The remaining four shire authorities all budgeted below GRE in total, but the shortfall on maintenance appears to be larger than average, particularly in Hereford and Worcester and Norfolk.<sup>176</sup> Of course, such a comparison is over-simplified but it nevertheless suggests that many authorities do face difficulties in achieving priority for road maintenance given the range of demands from other sources in a context of expenditure restraint exercised through the block grant system.

Therefore, the combination, or interaction, of two factors - central government expenditure restraints and local authorities' service priorities - largely explains the problem of inadequate road maintenance expenditure and, in particular, why the increase achieved in recent years has matched neither the Government's plans nor the level required in order to meet the needs

recognised by local authorities themselves. The major area of concern continues to be the structural condition of local roads due to cuts which have affected structural maintenance particularly since 1982/83, as we saw in section 3.2.4 above. This concern is reflected in the fact that, within the increases in spending which have occurred since 1985/86, there has been a tendency to give priority to structural works.

For example, increases in resources secured for road maintenance in Cheshire, Cleveland, Hereford and Worcester and Norfolk have been directed primarily to structural repairs in order to attempt to arrest continuing deterioration. Generally, the allocation of these resources has reflected the widespread policy of giving priority to principal and more heavily-used roads, at the expense of programmed maintenance of minor roads. Norfolk County Council provides an example of such an approach:

"It is a point of concern that principal roads are indicating an increase in the areas of deterioration requiring treatment. The only way this can be stabilised is at the expense of necessary works on non-principal roads or additional funding. A certain amount of redirecting of funds into the principal road network has taken place over the last two years, it being considered that structural repairs on these roads must be one of the highest priority items for maintenance funding, albeit at the expense of lower classification roads."<sup>177</sup>

However, such a policy results in the more rapid deterioration of minor roads which are also more susceptible to damage due to frost and heavy vehicles, as we discussed in section 2.2 above. We have seen that the NRMCS provides evidence of this trend and many authorities have expressed concern. Indeed, such concern has led some authorities to reconsider the balance of priorities. For example, the 10% real increase in spending by Cleveland County Council in 1986/87 was directed mainly at structural maintenance of carriageways and footways on the secondary road network in order to attempt to arrest deterioration.<sup>178</sup> Birmingham City Council have expressed concern about the implications of past policies assigning priority to maintenance of main traffic routes with less emphasis on minor roads and the needs of pedestrians. The Council is, therefore, considering redressing the balance somewhat, the two options being:

"either to continue with the present policies which direct resources into the major roads whilst allowing the deterioration of side roads and footways to accelerate or to attempt to maintain the whole network as adequately as possible by the use of alternative treatments."<sup>179</sup>



The scope for such a shift in priorities is probably rather limited in many authorities given the present climate of expenditure restraints unless it occurs in the context of a broader change in the balance of priorities between services resulting in more resources being allocated to road maintenance within the authority, as would appear to be the case in Cleveland. The Audit Commission have argued that there is scope for resources to be released through efficiency improvements and reduced standards of routine maintenance.<sup>180</sup> However, our analysis has found that many authorities have already reduced routine maintenance standards which are considered to be the absolute minimum consistent with safety considerations and statutory obligations and many have also explored fully the potential for use of cheaper treatments. A serious initiative to arrest the deterioration of local roads and improve maintenance standards will require additional resources. Our analysis produces few grounds for predicting that authorities will be able to re-order their priorities and direct more resources to maintenance at the expense of other services because these other services (such as education, social services, and community and leisure services) also clearly face heavy demands for constrained resources. However, there would appear to be a basis for such a modification of priorities in the increasing number of complaints and claims from road users arising from poor road conditions and from evidence of considerable public dissatisfaction with the state of the roads.<sup>181</sup> Nevertheless, at the end of the day, it is for individual Councils to balance the available evidence on demand or need across the whole range of their services.

The difficulties experienced by authorities in allocating resources for current expenditure on maintenance have resulted in a continuing trend towards capitalisation of major structural works involving substantial improvement of roads. The need for such major and costly works has increased due to past inadequate levels of normal structural maintenance and a growing problem of carriageway failure. Examples of authorities which have developed capital programmes of such works include Cheshire, Cleveland and Kent amongst the shire counties and Manchester, Sheffield and Birmingham amongst the metropolitan districts. However, we have shown elsewhere (Sanderson 1988C) the extent to which the scope for such programmes has been limited by restraints deriving from the Government's system for supporting and controlling capital expenditure. There are two main aspects to this problem.

The first derives from the failure of such works, to date, to attract grant support under the reformed TSG system. Since 1985/86, as we have seen, TSG support has been restricted to capital expenditure on roads designated to be 'of more than local importance' and several authorities have applied for TSG support

in respect of capitalised maintenance works on eligible roads which involve substantial structural improvement (all the authorities listed in the previous paragraph have made such applications). The Department of Transport has not accepted any expenditure on such works for TSG support which means that authorities have had to finance them either from borrowing within capital allocation or by applying capital receipts.

However, the second aspect of the problem derives from constraints applied by the Government on authorities' capital allocations in order to accommodate the spending power available to local authorities as a whole from capital receipts. Assumptions about the availability of such spending power are made at an aggregate level and do not reflect the circumstances of individual authorities. Therefore, those authorities which in fact generate few capital receipts tend to lose out relative to those which have a large income from receipts. The main losers tend to be the shire counties (non-housing authorities), particularly those in the north of the country where land and property values are relatively low. However, even in the metropolitan districts, which generate substantial receipts as housing authorities, the potential for applying receipts to highways capital programmes not eligible for TSG support (which include capitalised maintenance) have suffered from the restraints on capital allocations especially in authorities with limited capital receipts.

A contrast in approach to this problem is provided by Kent County Council and Manchester City Council. Kent has generated quite substantial capital receipts due to high land and property values and an active policy of disposal of surplus assets and, because of the high priority assigned by the Council to road maintenance, has financed a significant proportion of its 'reconditioning' programme from capital receipts (some 31% in 1986/87).<sup>182</sup> As a housing authority, Manchester City Council has a significant degree of spending power available from capital receipts but the Council has not been able to sustain the allocation of receipts to highway programmes as capital allocation has been reduced. Therefore, whereas some 2 million was spent in 1986/87 on capitalised structural works, no such works were included in the 1987/88 programme in spite of an identified need for expenditure of some 3.1 million.<sup>183</sup>

This problem also illustrates, therefore, the interaction between restraints imposed upon local authorities by the Government's systems for controlling their expenditure and decisions made by authorities, within the context of these restraints, about the relative priorities to be assigned to the services and activities for which they are responsible in the allocation of the available resources. Our analysis indicates that an understanding of this interaction is crucial to the explanation of the problem of

inadequate maintenance of local roads and to the development of possible solutions. We will address the issue of approaches to a solution in section 4 but first we will briefly summarise the findings of this section.

### 3.4 Conclusion

We have examined the trend in local authorities' road maintenance expenditure relative to the Government's spending plans, and in authorities' policies and outputs, in terms of two periods. In the first period to 1984/85 local road maintenance expenditure was supported by Transport Supplementary Grant (TSG) but such support was discontinued in 1985/86 so in the second period, since that year, maintenance expenditure has been incorporated fully into the general block grant system in the same way as most other services.

The Government's main concern over the half-decade to 1984/85 was to reduce local authority expenditure relative to central spending plans. In this context of restraint local authorities' road maintenance spending declined in real terms so that overspending had been virtually eliminated by 1984/85. In the shire areas the decline was particularly marked, producing an underspend relative to accepted expenditure in 1984/85. During this period there was evidence of continual deterioration in the condition of local roads.

The contribution of TSG to local authorities' transport expenditure declined, especially between 1982/83 and 1984/85, and our analysis suggests that it was a secondary (but nevertheless still relevant) factor in the explanation of trends in local road maintenance expenditure. The primary factor was the operation of broader expenditure restraints through the block grant system, especially the operation of expenditure targets and grant penalties which the Government imposed between 1981/82 and 1985/86. In particular, this system imposed restraints on the shire counties from 1983/84 which reduced their expenditure progressively below GRE with adverse consequences for road maintenance. However, local decision-making about service priorities within the context of such restraints is also an important factor in explaining why road maintenance spending declined more than that on some other services.

This situation was exacerbated by a degree of contradiction and lack of co-ordination between various elements of central government policy. These were most in evidence in 1983/84 when the pattern of TSG allocations and targets can be seen as inconsistent with the Government's transport policy priorities relating to the promotion of local roads expenditure at the expense of spending on public transport.

In their response to expenditure restraints, authorities initially concentrated expenditure cuts on routine maintenance activities in order to protect structural maintenance but since the early 1980s structural work has also been affected. Authorities have made increasing use of lower cost surface treatments in spite of fears about longer-term consequences and increasingly have adopted systems to aid the determination of parities for resources. Concern about declining standards led the local authority associations to develop a 'Code of Good Practice' which an increasing number of authorities have adopted.

The discontinuation of TSG support for local authorities' maintenance expenditure occurred, therefore, in a context of declining spending and deteriorating road conditions and, notwithstanding its secondary role in explaining these trends, there were grounds for some reservations about the impact of the reform of the TSG system on maintenance expenditure. The continued decline in maintenance spending in 1985/86, particularly in the shire areas, to some extent confirmed such reservations, indicating the dominant role of restraints imposed by reductions in block grant and by target and penalties. The impact of these restraints was probably intensified by loss of TSG, and the introduction of rate-capping in 1985/86 also had an effect in London and the metropolitan areas.

The picture since 1985/86 is complicated by the abolition in 1986/87 of the GLC and metropolitan counties and by the discontinuation of the system of targets and penalties, the latter being replaced by a system of negative marginal grant rates in the block grant system. Local authorities' maintenance expenditure has increased in real terms since 1985/86 but not sufficiently to match the increase in the Government's provision, resulting in a growing underspend, particularly in the shire and metropolitan areas. This can be explained primarily in terms of the continued operation of expenditure restraints through the block grant system, now supplemented by rate-capping, and by authorities' approaches to determining relative service priorities in the context of such restraints. This latter factor has become more important in London and the metropolitan areas since the abolition of the GLC and MCCs because road maintenance now has to compete for resources with a wider range of services. It is evident that authorities face considerable difficulties allocating sufficient resources to road maintenance when they face pressing demands for additional resources from a wide range of services in a situation where any increase in expenditure results in a loss of block grant, increases the burden of local ratepayers to a disproportionate degree, and can lead to the imposition of rate-capping. We have no clear evidence to suggest that the retention of TSG support for maintenance (along the lines of the old system) would have altered this picture

fundamentally given the dominant influence of broader expenditure restraints.

Therefore, our analysis leads us to conclude that the problem of inadequate maintenance of local authority roads can be explained primarily in terms of the interaction between two sets of factors. The first set derive from the operation of the Government's expenditure control systems and restraints designed to impose tight limits on local authorities' expenditure behaviour. The second set derive from the approach adopted by local authorities to determine relative service priorities in response to the Government's expenditure restraints on the one hand, and to their perceptions of local problems and needs on the other. We conclude that an understanding of this interaction is central to the explanation of the problem and, therefore, to the development of possible solutions. It is to this latter issue that we now turn.

#### 4 The Way Forward?

Our analysis of the local road maintenance problem indicates that there are two major aspects to the consideration of possible solutions. The first aspect concerns the level of resources made available by central government for local road maintenance, the basis upon which such resources are provided to local authorities and the controls and restraints exercised by central government over local authorities' spending behaviour. The second aspect concerns the approach adopted by local authorities, within this context, to the determination of priorities between various services, the allocation of resources to those services, and to ensuring that resources are used effectively in producing outputs to meet the needs of local communities.

In our view, developments on both these fronts are required if the problem of inadequate maintenance of local roads is to be addressed. To focus on one aspect represents a partial and inadequate response. However, we have seen that there is a tendency for such partial views to be adopted. Thus, the Government's view is that recent real increases in provision reflect ... "the importance the Government attaches to keeping local authority roads in satisfactory condition...",<sup>184</sup> while ... "the deepening underspend, compared with overspending against planned provision on most other services, indicates that local authorities are not according road maintenance sufficiently high priority."<sup>185</sup> On the other hand, local authorities tend to stress the problem of expenditure restraints imposed by central government; for example:

"The condition of most existing local roads continues to deteriorate and despite statements to the contrary, Central Government are not making sufficient funds available to Local Authorities to remedy this situation."<sup>186</sup>

A recent examination of the problem of local road maintenance by the Audit Commission (1988A, 1988B) represents an important contribution in that it discusses both the above aspects in developing a recommended approach to solving the problem. However, based on our analysis we have certain reservations about these recommendations and it will be useful to discuss these in order to highlight certain issues which are important to the consideration of possible solutions.

The Audit Commission analyses the problem in terms which are consistent with our approach emphasising both the level of resources made available by the Government and the effectiveness and efficiency of resource use by local authorities. Both these aspects figure, therefore, in the Commission's recommendations although there is an emphasis on the latter vi ways in which

local authorities should be able to direct more resources to meeting road maintenance needs more effectively and to achieve greater efficiency in converting resource inputs into work outputs.

We have not examined in any detail the issue of efficiency in local authorities' road maintenance activities so we would not take issue with the Audit Commission's view of the scope for additional efficiency improvements on the basis of wider adoption and implementation of the LAA Code of Good Practice, improvements to the working methods, more extensive competitive tendering and better management of agency agreements. Of course, such matters do raise relevant issues relating to the trade-off between efficiency and other considerations but we do not intend to discuss these here.

As regards action by local authorities in the area of resource allocation, the Audit Commission suggests that they should spend 7% in excess of their GREs for maintenance and adopt budgeting procedures based on authority-wide assessments of needs linked to explicit policies, in order to ensure that adequate resources are allocated to road maintenance. However, we see something of a contradiction in exhorting local government to ensure that resources are allocated to meet objectively-assessed needs when the level of funding provided by central government is not based directly on such an assessment of need.

Thus, the Government's provision for local road maintenance and authorities' GREs are not determined on the basis of measures which reflect fully road maintenance needs. Indeed, GREs play a rather ambiguous role. Formally they represent the level of expenditure which the Government considers local authorities need to incur in providing an appropriate standard level of service, and provide the basis for the distribution of block grant between authorities. Block grant is paid in support of services generally and local authorities retain the discretion to determine their own priorities between and within services. In this sense, GREs do not provide a basis for calculating normative total expenditure standards for individual services.

Nevertheless, there is an obvious temptation to see GREs as a measure of what authorities should be spending on particular services because they represent a convenient proxy for need. The Audit Commission indeed tends towards this position, giving GRE normative connotations as "... a useful proxy for what the government considers each local authority should be spending."<sup>187</sup> The problem is that this is not necessarily a good indicator of the resources actually required by an authority to maintain its roads to adequate standards.

We saw earlier <sup>188</sup> that the GRE component for normal maintenance (which makes up some three quarters of the total) is allocated primarily on the basis of road lengths weighted to take account of higher costs for principal roads and roads subject to heavier use. The variables used are clearly related to need but there are grounds for criticism of the relationship between GRE and need. The main criticism is that this new basis for representing need, introduced in 1985/86, took no account of the existing condition of roads; it assumed, in effect, that all authorities started from the same position with roads of equal standard and that future variation in need would be a function of the usage variable. Therefore, authorities whose roads were in worse-than-average condition in 1985/86 effectively lose out in the determination of the GRE because it fails to take account of the cost of addressing this maintenance backlog. The discrepancy between GRE and need will be increased by the extent to which the traffic usage variable fails to reflect the actual burden placed on an authority's roads by heavy vehicles in particular.

We have seen that the introduction of the new maintenance GRE in 1985/86 with the reform of the TSG system tended to favour the larger, less densely-populated shire areas at the expense of smaller authorities with more heavily built-up areas. London and the metropolitan areas received a slightly lower share of the maintenance GRE in 1985/86 (34%) than they had of maintenance 'accepted expenditure' in 1984/85 (36%). This suggests that the discrepancy between GRE and maintenance needs may be greater in more heavily urbanised areas. The criticisms voiced by Manchester and Sheffield City Councils would tend to support this view; both authorities have argued that the GREs fail to reflect adequately the needs of large urban areas, subject to heavy traffic use, large numbers of utility openings and a wide range of inner city problems requiring attention with scarce resources.<sup>189</sup> The question of the adequacy of other service GREs as measures of needs in such authorities is also relevant due to the freedom of authorities to allocate resources between competing services irrespective of GREs. Thus, maintenance expenditure will come under greater pressure to the extent that such GREs are seen as inadequate in relation to the problems faced by authorities in for example, education, housing, social services and leisure and community provision.

In view of the inadequacy of GRE as a measure of need it is important that local authorities base resource allocation on more objective assessments of needs, as the Audit Commission argues. Needs-based budgeting procedures are clearly desirable as a means of improving effectiveness in the use of resources by local authorities and, indeed, many authorities are moving in this direction with the use of maintenance assessment systems such as MARCH and CHART. However, such procedures, in themselves, would not necessarily guarantee a solution to the road maintenance



problem. This is because, logically, needs-based budgeting for road maintenance should be introduced in the context of the development of a similar approach for all local authority services in order to improve effectiveness of total resource use. However, systems for needs assessment across the full range of local authority services would be likely to generate additional justifiable demands for resources for many services which could only be resolved by the determination of priorities by elected members. In a context of continued expenditure restraint there would be many unset needs and there are few grounds for believing that road maintenance would achieve higher priority relative to, say, education and social services than at present.

This raises the second aspect of the problem - the basis upon which central government provides resources to local authorities - and emphasises the necessary importance of local discretion over resource allocation in the consideration of solutions to the problem. Both aspects will need to be addressed. Authorities justifiably could expect moves on their part towards higher maintenance spending based upon needs-based budgeting to be supported by moves by central government towards the determination of expenditure provision and the allocation of resources to authorities on the basis of more accurate assessments of needs and target standards of maintenance. On the other hand, central government will wish to see that resources are used effectively and efficiently by authorities in meeting needs and that the desired standards are achieved.

We see the road maintenance problem as a specific manifestation of a broader problem faced by local government in directing adequate resources to address effectively a wide range of pressing local problems and needs. From this point of view, the solution to the road maintenance problem should be seen in the context of the solution to the broader problem and the Audit Commission's approach appears too narrow, particularly in relation to the action required by central government to provide a context which would be more supportive of moves by local authorities to 'put their house in order'. Fundamental to any solution are measures by the Government to ensure that local authorities are provided with adequate resources to meet the whole range of their expenditure needs effectively, with high levels of efficiency, and to acceptable standards.

There are two aspects to this. First, the level of resources made available should be based upon realistic assessments of actual needs and realistic assumptions about the progress achievable by local authorities in terms of efficiency improvements and the re-ordering of priorities between their services. Second, the distribution of these resources between authorities should reflect more accurately the actual needs of individual authorities relative to desired standards.

In the context of such an approach by central government (which might also embody a more generous view of the role, capabilities and achievements of local government) local authorities could be expected to implement their part of the bargain, particularly improved needs-based budgeting procedures as a basis for establishing expenditure priorities and more effective resource allocation, and efficiency improvements which could release more resources for productive use in addressing their local problems and needs.

The major potential problem area in this approach relates to discrepancies between central and local government in terms of expenditure priorities between services and in terms of views about appropriate local standards of service provision. Such discrepancies are an inherent feature of our political system in which, by well-established convention, local authorities have a significant degree of discretion to determine their expenditure priorities in accordance with their perceptions of the needs of their areas.<sup>190</sup> However, over the past decade increasing central government controls and restraints on local government have exacerbated conflict between them in terms of service priorities and standards. In relation to a solution to the road maintenance problem, the question arises as to how appropriate standards for road maintenance by local authorities would be determined and achieved, given the decline of these standards over the years.

Since the publication of the Marshall Report on Highway Maintenance in 1970 there has been a continuing debate about maintenance standards. The standards recommended by Marshall were not widely adopted due to inadequate resources to achieve them but his report emphasised the importance of defined standards to effective resource allocation:

"Without readily available recognised standards there will be but limited progress towards more effective planning, management and productivity; nor will it be possible properly to evaluate or allocate maintenance expenditure".<sup>191</sup>

This issue was taken up by the House of Commons Transport Committee in their study of highway maintenance in 1983. The Committee found a considerable variation in standards between authorities due to the fact that standards achieved tended to be determined by the finance available instead of determining the finance needed. In other words, standards tended to be outputs from, rather than inputs to, the resource allocation process, and therefore were contingent upon local authorities' responses to expenditure restraints:

"It is perhaps inevitable that the decisions of local highway authorities on the priority to be given to road

maintenance within their overall budgets will vary considerably, particularly at a time when all aspects of local spending are under severe pressure."<sup>192</sup>

The important questions concern the way in which this relationship can be reversed (with appropriate standards becoming inputs to the resource allocation process) and the basis upon which appropriate standards are defined. The local authority associations' "Code of Good Practice" sets out recommended ranges of standards and this Code increasingly is being adopted by local authorities as a basis for more effective resource allocation. Clearly, the standards adopted by individual local authorities inevitably will be subject to some variation according to local circumstances and public opinion, especially in respect of routine maintenance activities. However, the degree to which standards for structural maintenance should vary is perhaps more contentious due to the important economic and safety considerations.<sup>193</sup>

The Audit Commission recommends legislative change to establish minimum national standards for road condition, with separate standards for each type of road. There will doubtless be considerable argument about the extent to which defined national standards usurp the right of local authorities to determine their expenditure priorities and determine standards of service in accordance with local circumstances and the preferences of local communities. The point remains, however, that if the Government is to make resources available for local road maintenance on the basis of defined need there will require to be a definition of minimum standards and an assessment of the resources needed to bring existing road conditions up to these standards. It would, of course, always be open to individual authorities to set higher standards locally and allocate additional resources either at the expense of other services or from higher rates.

This approach could be implemented through the vehicle of Transport Policies and Programme (TPP) submissions without an excessive degree of central direction and bureaucracy. Authorities would submit bids for maintenance resources based on assessments of need relative to defined minimum standards set in relation to the LAA's "Code of Good Practice". For structural maintenance needs would be determined using technical assessment systems while for routine maintenance specified frequencies and unit costs would be required. On the basis of such bids the Government would make a judgement about the resources which should be made available to achieve a target level of improvement in road conditions in the context of a programme to bring conditions up to the defined minimum standards nationally.

The basis upon which resources are distributed between authorities represents a crucial issue. The two alternatives are

firstly allocation through the block grant system if an appropriate 'needs factor' can be included in the calculation of the maintenance GRE and, secondly, a supplementary or specific grant. The latter would be the simplest approach but would be unpopular with local authorities, being seen as representing an increase in central control and an erosion of local discretion. The former approach presents two problems, first, the determination of an appropriate GRE formula and, second, the fact that resources provided via block grant would still be vulnerable to decisions to give other services priority over road maintenance and subject to abatement under the current system of negative marginal grant rates.

This matter would require detailed consideration by the Government and the local authority associations, bearing in mind the reforms of local government finance planned for introduction in April 1990. What is clear is the importance of ensuring that local authorities actually receive resources from central government which will support programmes to achieve the desired standards, with realistic assumptions being made about efficiency improvements. For their part, local authorities would be expected to provide, in their TPP submissions, evidence of performance and progress both in terms of the extent to which defined needs were being met and standards improved, and in terms of indicators of the efficiency in the use of resources.

On the basis of such a joint approach by central and local government there would be good prospects for reversing the deteriorating trend in the condition of local roads as part of a broader improvement in the effectiveness and efficiency of local government services. However, given the continuation of present circumstances it is probably unrealistic to expect a solution to the maintenance problem to come simply from a re-ordering of service priorities on the part of local authorities. An important dimension of the problem concerns the nature of relations between central and local government. Trends over recent years towards increased central control and financial restraint have not produced a climate which is conducive to developing a solution to the road maintenance problem which exploits fully the potential and strengths of local government working in 'partnership' with central government. Rather, there is an apparent tendency for central government to see local authorities increasingly as 'agents' for the delivery of services in accordance with central plans, policies and priorities. In such a context the specific grant approach to maintenance funding becomes, perhaps, more likely.

The situation is not helped by the uncertainty generated by the Government's proposals for reform of local government finance which will replace domestic rates with a per capita community charge, introduce central control over non-domestic rates, and

reform the system for distribution of central government grant support to local authorities. It is beyond the scope of our study to analyse the likely implications of this reform for local road maintenance. Since some three-quarters of total local authority expenditure will be under direct control of central government in the new system, much will depend on the degree of restraint exercised by the Government via grant support. If such support is restrained authorities will face considerable difficulties increasing expenditure because of the impact on individual via increases in the community charge. In view of the pattern of relative service priorities which our analysis has indicated as pertaining over recent years, there must be some concern about the prospects for road maintenance under the new system.

There may be grounds for particular concern about the effect in higher-spending authorities in the north of the country which stand to lose from the ending of the current resource equalisation mechanism in the block grant system based on rateable values.<sup>194</sup> Although 'safety net' provisions will spread changes over a period of years, such authorities are likely to experience particularly severe restraints. They include many metropolitan district authorities which face heavy demands from a wide range of services due to serious problems of inner urban areas. In a context of more severe restraint the difficulties which we have found such authorities facing at present in allocating sufficient resources to maintenance may be increased. The implications would be serious in view of the road maintenance problems which many such authorities face with large backlogs of structural maintenance, large number of utility openings and high traffic loadings.

Such concerns strengthen the case for an immediate initiative by central and local government in partnership to reverse the trend of deterioration in local authority roads. Our proposed approach could be implemented quickly and its main elements are relevant to the proposed new financial regime. The importance of ensuring adequate protection of the massive investment which has been made in the country's road system should provide sufficient motivation for achieving the major requirements for a solution to the problem - an increase by central government in the resources provided for the maintenance of local roads; the distribution of these resources to local authorities in accordance with demonstrated needs; and the use of these resources by local authorities in an effective and efficient manner in addressing their road maintenance needs and achieving agreed standards.

## 5 Summary and Conclusions

There is growing concern about the condition of local roads in this country. Considerable evidence exists on the trend of deterioration but consensus on the facts of deteriorating conditions is not matched by consensus on the causes and, therefore, the solution. In particular, local authorities tend to emphasise the inadequacy of central government funding while central government argues that local authorities are not giving road maintenance sufficient priority for the resources which are available.

It is clear that local authorities face a problem of some considerable magnitude in achieving improved road conditions (section 2.2). A substantial backlog of maintenance work has built up over the past decade or so due to inadequate treatment in the face of continually increasing needs. The length of road requiring maintenance and the amount of traffic using local roads grows constantly. Growth in heavy goods vehicle traffic is a primary determinant of wear and tear of carriageways. The increasing scale of excavations by the statutory undertakers and the poor quality of reinstatements have created serious problems for local authorities. Some harsh winters have exacerbated problems, particularly as severe frost has sought out weaknesses caused by inadequate treatment, heavy vehicles and utility excavations. Increasing use of traffic management measures has resulted in a growth in 'street furniture' and a concentration of wear on certain roads, often minor roads not suited to the task. Delays to new road construction due to capital expenditure restraints have increased the burden of maintenance of older roads and have added to the growth in traffic management strategies. Increasing public concern about environmental, public safety, crime and equal opportunities issues has added to the demands placed upon local authorities.

The costs of undertaking maintenance work has also increased, particularly materials costs. In the face of restraints on public expenditure, local authorities have resorted to cheaper road treatments and have also had to reduce labour costs by cutting back on the maintenance workforce. The reduction in maintenance work undertaken has been reflected in declining standards and the National Road Maintenance Condition Survey (NRMCS) and authorities' own surveys provide a considerable amount of evidence on the extent of this decline (section 2.3). There are sound arguments relating to economic and safety considerations for improving the present condition of local roads and for ensuring that roads are maintained continually at satisfactory standards. These arguments are supported by evidence of considerable public dissatisfaction with the present state of the country's local roads (section 2.4).

In our attempt to explain the problem of inadequate maintenance of local authority roads we analyse trends in authorities' road maintenance expenditure relative to the Government's spending plans, and in authorities' policies and outputs, in terms of two periods. In the first period up to 1984/85 (Section 3.2), local road maintenance expenditure was supported by Transport Supplementary Grant but such support was discontinued in 1985/86 so in the second period, since that year (section 3.3), maintenance expenditure has been incorporated fully into the general block grant system in the same way as most other services.

The Government's main concern over the half decade to 1984/85 was to reduce local authority overspending relative to central spending plans (section 3.2.1). In this context of restraint local authorities' expenditure on road maintenance declined in real terms so that overspending had been virtually eliminated by 1984/85. This decline was particularly marked in the shire counties, resulting in an underspend relative to accepted expenditure in 1984/85. The evidence indicates a continued decline in the condition of local roads during this period.

The contribution of TSG to local authorities' transport expenditure declined, especially between 1982/83 and 1984/85 and our analysis suggests that it was a secondary factor in the explanation of trends in maintenance spending (section 3.2.2). The primary factor was the operation of broader expenditure restraints through the block grant system, especially the operation of expenditure targets and grant penalties which the Government imposed between 1981/82 and 1985/86 (section 3.2.3). In particular, this system imposed restraints on the shire counties from 1983/84 which reduced their expenditure progressively below GRE with adverse consequences for road maintenance. However, our analysis shows that local decision-making about service priorities within the context of such restraints is also an important factor in explaining why road maintenance spending declined by more than that on some other services.

A degree of contradiction and apparent lack of co-ordination between various elements of central government policy made the situation worse. Authorities received contradictory signals from maintenance accepted expenditure and broader expenditure targets. In 1983/84 the pattern of TSG allocations and targets were not consistent with the Government's transport policy priorities relating to the promotion of local roads expenditure at the expense of spending on public transport.

Local authorities responded to expenditure restraints by concentrating expenditure cuts initially on routine maintenance in order to protect structural works but since the early 1980s

structural maintenance has also been affected (section 3.2.4). Increasing use has been made of lower cost treatments in spite of fears about the long term consequences and authorities have increasingly adopted systems for more rigorous assessment of needs and determination of priorities for resources. Concern about declining standards led the local authority associations to produce a 'Code of Good Practice' for road maintenance which many authorities have adopted.

The reform of the TSG system discontinued support from this source for local road maintenance expenditure in 1985/86 in a context of declining spending and deteriorating road conditions (section 3.2.5). Notwithstanding the secondary role of TSG in explaining these trends there were grounds for reservations about the impact of the reform on maintenance expenditure. The continued decline in spending in 1985/86, particularly in the shire counties, to some extent confirmed such reservations but the dominant factor, again, was the role of restraints imposed by reductions in block grant and the operation of targets and penalties (section 3.3.1). The loss of TSG support had an indirect influence serving to expose authorities more to the impact of broader expenditure restraints, the latter being tightened by the introduction of rate-capping which affected higher spending authorities, particularly in London and the metropolitan areas.

Analysis of trends since 1986/87 is complicated by the abolition of the GLC and metropolitan counties and of the system of targets and penalties, the latter being replaced by restraints exercised through the block grant system via negative marginal rates of grant. Local authorities' maintenance expenditure has increased in real terms since 1985/86 but has not matched the increase in the Government's provision, resulting in a growing underspend. This can be explained primarily in terms of the continuing operation of expenditure restraints through the block grant system, now supplemented by rate-capping, and by the authorities' approaches to determine relative service priorities in the context of such restraints. This latter factor has become more important in London and the metropolitan areas since the abolition of the GLC and MCCs since road maintenance now has to compete with a wider range of services.

We have found evidence that authorities face considerable difficulties allocating sufficient resources to road maintenance when they face heavy demands for additional resources from a wide range of services in a situation where any increase in expenditure results in a loss of block grant, in a disproportionate increase in the burden on local ratepayers, and can raise the prospect of liability for rate-capping. However, we have no evidence to suggest that the retention of TSG support for maintenance (in the form of the old system) would have



altered this picture fundamentally given the dominant influence of broader expenditure restraints.

The increase in maintenance expenditure by local authorities since 1985/86 has not been sufficient to arrest the deterioration in local roads, let alone restore satisfactory standards (section 3.3.2). Priority has been given to structural maintenance on major roads in spite of a recognition that this could only be at the expense of standards on minor roads which show evidence of accelerated deterioration. Efforts by some authorities to use capital resources for major structural works, have been limited by restraints deriving from the operation of the Government's capital expenditure control system and by the failure of such works to attract TSG support.

Our analysis leads us to conclude that the problem of inadequate maintenance of local authority roads can be explained primarily in terms of the interaction between two factors. The first is the operation of the Government's expenditure control systems and restraints designed to impose tight limits on local authorities' expenditure behaviour. The second is the approach adopted by local authorities' to the determination of priorities and the allocation of resources between services in response to the Government's expenditure restraints on the one hand and to their perceptions of local needs on the other.

An adequate solution to the problem must involve action on both these fronts; it must address both the issue of the resources made available to local authorities by central government and the issue of the allocation and use of resources by local authorities (section 4). A recent analysis of the problem by the Audit Commission addresses both these aspects although the emphasis is placed on the latter - the ways in which authorities should direct more resources to road maintenance and use them more effectively and efficiently.

The Audit Commission's view is too narrow, especially in relation to action required by central government. In our view, local authorities justifiably could expect moves on their part to 'put their house in order' to be supported by moves by central government to ensure adequate expenditure provision to meet road maintenance needs to satisfactory standards, and to ensure that the distribution of resources to authorities reflects their actual needs.

If central government is to make resources available for local road maintenance on the basis of defined needs there will require to be a definition of minimum standards of maintenance and an assessment of the resources needed to bring existing road conditions up to these standards. Minimum standards could be based on recommendations in the LAA's "Code of Good Practice" but

authorities should be free to set higher standards according to local circumstances, financed from local resources.

This approach could be implemented through TPPs, with authorities submitting bids for resources based on assessed needs relative to defined minimum standards. Central government would set provision on the basis of this information and resources could be allocated to authorities either through block grant (if an appropriate 'needs factor' could be incorporated into the GRE formula) or through a supplementary grant. It would be crucial to ensure that authorities actually received the resources to support the required maintenance programmes. For their part authorities would provide evidence in TPP submissions on performance and progress in meeting needs and standards and in improving efficiency.

The prospects for such a solution are uncertain, particularly in view of proposals to reform the system of local government finance in April 1990. There are grounds for concern about the prospects for local road maintenance under the new system, and such concern strengthens the case for an immediate initiative by central and local government in partnership to reverse the trend of deterioration in local authority roads.

### NOTES ON TEXT

- 1 Avon County Council, 1980/81 TPP Submission, para 13.2.3.
- 2 See the discussion in Sanderson (1988b, Section 2.3) and Sanderson 1988c.
- 3 Kent County Council 1981/82 TPP Submission, para D39; Cleveland County Council 1981/82 TPP Submission, para 6.2.
- 4 See Sanderson 1988c, Section 5.3
- 5 Department of Transport (1987b), Table 2.1.
- 6 *ibid.* Tables 2.1 and 2.2.
- 7 Audit Commission (1988b), para 16; House of Commons Transport Committee (1983), paras 141-43.
- 8 Audit Commission (1988b), para 16.
- 9 Avon County Council, 1988/89 TPP Submission, para 11.7.
- 10 House of Commons Transport Committee (1983), paras 74, 147; Associations of County and District Councils (1983), paras 7.4 - 7.7.
- 11 Sanderson, 1988c.
- 12 Audit Commission (1988b), para 16; Association of County and District Councils (1983), para 7.14 - 7.16.
- 13 Cheshire County Council TPP Submission No 11 (1985/86), para 3.5.
- 14 Associations of County and District Councils (1983), para 7.14.
- 15 Horne (1985) Chapter 2; House of Commons Transport Committee (1983), paras 50-72; Associations of County and District Councils (1983), paras 8.1 - 8.11.
- 16 Horne *op cit*; House of Commons Transport Committee *op cit*.
- 17 Associations of County and District Councils (1983), para 8.9.
- 18 Sheffield City Council 1987/88 TPP Submission, para 1.27.

- 19 Cornwall County Council 1985/86 TPP Submission, para 2.5.1.35; 1986/87 TPP Submission, Part One, p. 23.
- 20 House of Commons Transport Committee op cit para 70.
- 21 ibid, para 72.
- 22 Horne (1985) Chapter 28.
- 23 Associations of County and District Councils (1983), paras 9.1 - 9.6.
- 24 Avon County Council 1983/84 TPP Submission, para 5.11.
- 25 Nottinghamshire County Council 1984/85 TPP Submission, para 4.7.
- 26 Cheshire County Council TPP Submission No 9 (1983/84), para 3.5.
- 27 Cheshire County Council TPP Submission No 13 (1987/88), para 3.6.
- 28 Associations of County and District Councils (1983), para 9.9.
- 29 See, for example, Sheffield City Council 1987/88 TPP Submission, para 4.18; Birmingham City Council 1988/89 TPP Submission, para 7.5.
- 30 Avon County Council 1980/81 TPP Submission, para 3.4.13.
- 31 ibid, para 13.4.10.
- 32 ibid, para 13.4.12; Cornwall County Council 1980/81 TPP Submission, para 2.5.1.42; Kirklees MDC 1989/90 TPP Submission, para 4.6.7.
- 33 Avon County Council 1988/89 TPP Submission, paras 11.18 - 11.19.
- 34 This point was made by the Director of Highways, Kirklees MDC in interview.
- 35 Department of Transport (1987b), Table 1.21; 'Economic Trends', Annual Supplement 1987.
- 36 See annual Public Expenditure White Papers, H M Treasury (1979-88).
- 37 Cornwall County Council 1980/81 TPP Submission, Figure 12, p. 51.

- 38 Cornwall County Council 1986/87 TPP Submission, Part One p. 29-36.
- 39 Maintenance Outturn Forms 1986/87 for specified authorities.
- 40 Cheshire County Council TPP Submission No 7 (1980/81), para 5.7.7.
- 41 c.f. note 39.
- 42 For example, Avon County Council 1984/85 TPP Submission, para 5.16; see also Sanderson (1988c).
- 43 Cleveland County Council Annual Reports 1981/82 - 1985/86; Hereford and Worcester County Council 1988/89 TPP Submission, Appendix 3, p. VI; Maintenance Outturn Forms for both authorities.
- 44 Cheshire County Council TPP Submission No 11 (1985/86), p. 16
- 45 Standing Committee on Highway Maintenance (1987a), para 9.
- 46 *ibid*, Tables 1 and 3.
- 47 An estimate by the Audit Commission of the additional amount of treatment required on local authority roads neglects this issue of the type of treatment required to prevent further deterioration c.f. Audit Commission (1988b), para 21.
- 48 Cheshire County Council TPP Submission No 13 (1987/88), p. 23.
- 49 Cheshire County Council TPP Submission No 14 (1988/89), p. 17.
- 50 Kirklees Metropolitan Council 1988/89 TPP Submission, para 4.6.2; 1989/90 TPP Submission, para 4.6.2.
- 51 'Highways: Expenditure and Planning Issues Arising from Government Plans', Regional Officers' Support Group, West Midlands Regional Forum, Agenda Item No 5, 18th September 1987, paras 4.2 - 4.4.
- 52 Dudley Metropolitan Council, Joint Report of Borough Engineer and Chief Finance Officer to the Public Works and Transport Committee, 16th December 1987, Agenda Item 5, para 3.11.
- 53 Avon County Council 1988/89 TPP Submission, paras 11.9 - 11.10 and data supplied by County Surveyor's Department.
- 54 Cleveland County Council 1987/88 Forward Transport Plan, para 4.3.3.

- 55 *ibid.* paras 4.4 - 4.5 and Figure 3; 1988/89 TPP Submission, para 4.4.
- 56 Hereford and Worcester County Council 1986/87 TPP Submission, para 4.4.
- 57 Norfolk County Council 1988/89 TPP Submission, para 7.3.5; 'Highway Needs 1986', County Surveyor's Department, p. 59-67.
- 58 Audit Commission (1988a), paras 49-50.
- 59 House of Commons Transport Committee (1983), para 36.
- 60 Cleveland County Council 1987/88 Transport Forward Plan, para 4.3.3.
- 61 *c.f.* Audit Commission (1988a), para 5.
- 62 Kent County Council 1984/85 TPP Submission, paras 2.5 - 2.6.
- 63 This is one of the findings of the analysis of the TSG and capital expenditure control systems since 1985/86 reported in Sanderson (1988c).
- 64 Kent County Council 1988/89 TPP Submission, para 2.8.
- 65 Manchester City Council 1988/89 TPP Submission, para 10.12.
- 66 Hereford and Worcester County Council 1988/89 TPP Submission, Appendix 3, p. VII.
- 67 *op. cit.* note 52, para 3.12.
- 68 Hereford and Worcester County Council 1988/89 TPP submission, para 18.6.
- 69 Kirklees MDC 1988/89 TPP Submission, para 4.6.9.
- 70 Sheffield City Council 1988/89 TPP Submission, para 4.28.
- 71 Audit Commission (1988b), para 22.
- 72 *op. cit.* note 52, para 4.1.
- 73 Manchester City Council 1988/89 TPP Submission, para 10.11.
- 74 Cleveland County Council 1984/85 TPP Submission, para 3.3.
- 75 see the 'GRE Blue Book' produced annually by the Department of the Environment, Local-Government Finance Policy Directorate.

76 Data on road maintenance expenditure have been converted to constant prices using the DTp's road maintenance and lighting price indices Cf Dept. of Transport (1987b) Table 1.21.

77 H. M. Treasury 1982 p.24

78 H. M. Treasury 1983 p.30

79 cf. Sanderson 1988B section 2

80 Cheshire County Council TPP Submission No 11 (1985/86) p.15

81 See Sanderson 1988B, section 2.4

82 See, for example, Cheshire County Council TPP Submission No 10 (1984/85) para 2.5; Avon County Council 1984/85 TPP Submission, para 3.16

83 Kent County Council 1984/85 TPP Submission, para 4.4

84 Norfolk County Council 1984/85 TPP Submission, para 1.4

85 *ibid*, para 4.1

86 Cheshire County Council TPP Submission No 9 (1983/84) para 3.5

87 Cheshire County Council TPP Submission No 10 (1984/85) para 2.2

88 *ibid*. para 3.5

89 *ibid*. para 2.5

90 Avon County Council accepted expenditure per capita in 1983/84 was below the threshold level so the council received only a minimal TSG allocation due to 'safety net' provisions.

91 Avon County Council 1984/85 TPP Submission, para 1.1

92 *ibid*. para 3.16

93 *ibid*.

94 Cheshire County Council TPP Submission No 10 (1984/85), para 2.2.

95 annual Rate Support Grant Reports, Department of Environment (1980 - 1987)

96 Sanderson 1988A p.14 - 15; Sanderson 1988B p.12 - 15

97 Total expenditure in 1981/82 is not shown because data on disregards are not available for that year.

98 Municipal Yearbook 1984 p.725

99 Data on local authority budgets is from 'Finance and General Statistics' for 1983/84 and 1984/85, Statistical Information Service, CIPFA.

100 Associations of County and District Councils (1983) Para 10.4.

101 *ibid.*

102 Avon County Council 1985/86 TPP Submission, para 2.33.

103 *ibid.* para 3.9

104 Cleveland County Council 1983/84 Revenue Budget, paras 1.5/1.8

105 *ibid.* Appendix 2, para 4.7

106 Hereford and Worcester County Council 1984/85 Revenue Budget, p 7 (para 22).

107 *ibid.* p.5 - 6. Reserve funds were established by authorities to ameliorate the impact of penalties by transferring net expenditure from years of higher penalties to years of lower penalties. In the context of expectations of increasingly severe penalties in future years, authorities could incur net expenditure by contributing to funds in one year and avoid net expenditure by drawing on these funds in future years.

108 Sanderson (1988B)

109 Associations of County and District Councils (1983) para 2.4

110 Hereford and Worcester County Council 1982/83 TPP Submission, para 17.4

111 Cleveland County Council 1981/82 TPP Submission, para 6.3

112 Cheshire County Council TPP Submission No 11 (1985/86) p.15

113 Greater Manchester MCC (1983) para 9.9

114 Kent County Council 1982/83 TPP Submission, para C13

115 Hereford and Worcester County Council 1986/87 TPP Submission, para 18.3



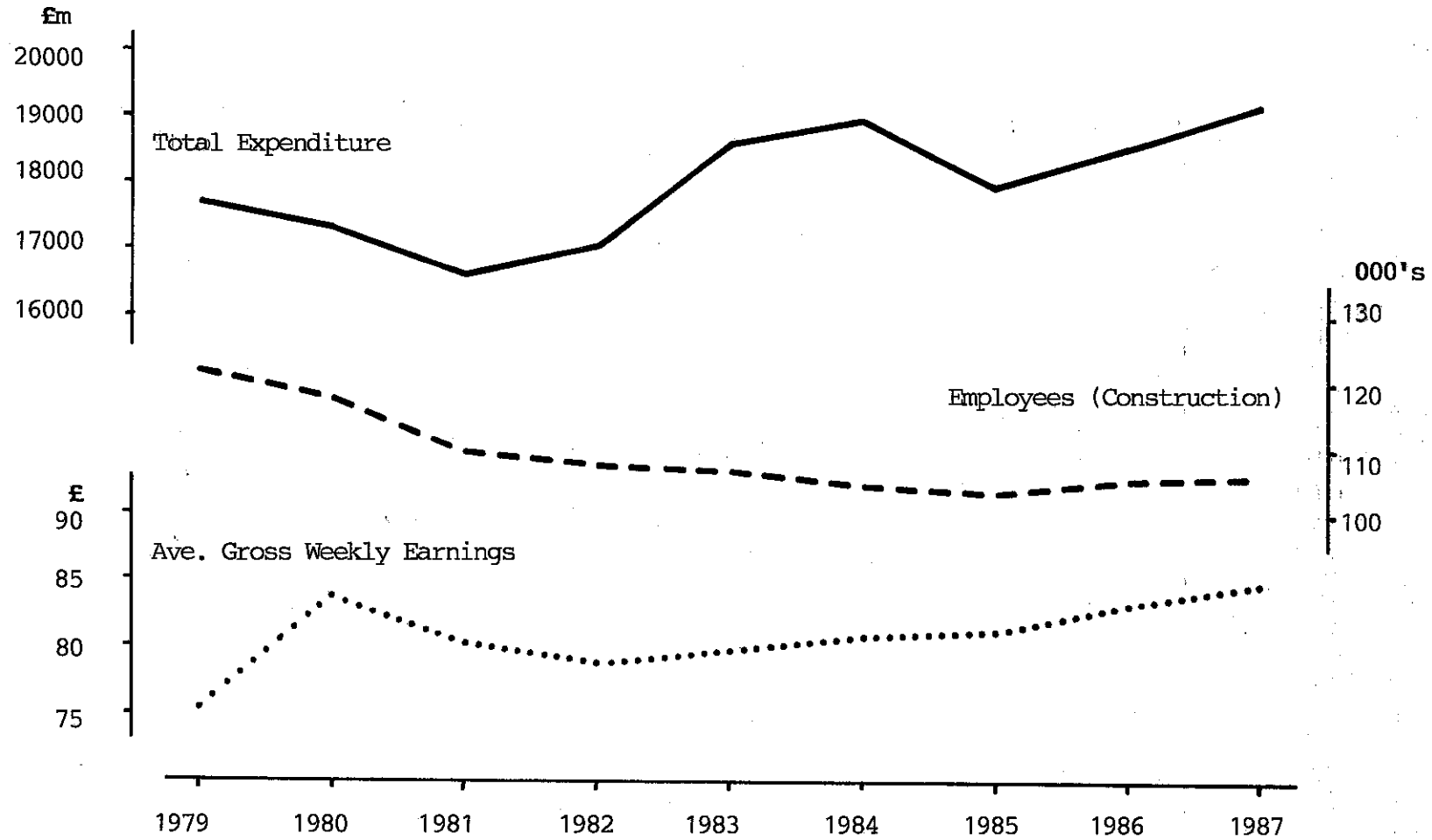
- 116 Avon County Council 1988/89 TPP Submission, para 11.29
- 117 Cleveland County Council 1982/83 TPP Submission, para 3.3
- 118 Avon County Council 1984/85 TPP Submission, para 1.10
- 119 Avon County Council 1985/86 TPP Submission, para 3.14
- 120 Avon County Council 1986/87 TPP Submission, para 5.14
- 121 A more detailed discussion of the capital expenditure control system is contained in Sanderson (1988A), p.17-20, and Sanderson (1988C)
- 122 Kent County Council 1985/86 TPP Submission, para 2.5
- 123 Cleveland County Council, TPP Submissions 1982/83 - 1984/85, para 3.2
- 124 Cheshire County Council TPP Submission No 10 (1984/85), para 3.5.
- 125 Sanderson (1988B) section 2.3
- 126 Kent County Council 1984/85 TPP Submission, para 4.5
- 127 Associations of County and District Councils (1983), para 2.8
- 128 Hereford and Worcester County Council 1984/85 TPP Submission, para 18.2.1
- 129 Norfolk County Council 1985/86 TPP Submission, para 4.1
- 130 'Highway Maintenance: A Code of Good Practice', Joint Report of the Associations of County, District and Metropolitan Councils, 1983. A new version has now been produced (1989).
- 131 'Improving Highways Maintenance: A Management Handbook', Audit Commission, (1988B)
- 132 *ibid.* paras 38-39
- 133 A detailed discussion of this reform and its implications is contained in Sanderson 1988B, 1988C
- 134 Department of Transport 1984A, para 2
- 135 Sanderson 1988B p.28
- 136 *ibid.* section 2.3

- 137 House of Commons Transport Committee 1984 para 25, 35
- 138 *ibid.* para 28
- 139 House of Commons Transport Committee 1983, para 206; Associations of County and District Councils 1983, para 10.4
- 140 House of Commons Transport Committee 1983, para 206
- 141 Department of Transport 1984A para 7; Department of Environment 1985, para 4.1
- 142 Department of Environment 1985 *op cit.*
- 143 The principles behind and details of the distribution of block grant are described in the annual Rate Support Grant Report (England) produced by the Department of the Environment
- 144 The system is described in more detail, and illustrated, in Sanderson 1988A, section 3.2 and Annex 2.
- 145 See the annual 'Rate Limitation Reports' published by the Department of the Environment
- 146 H. M. Treasury 1985, p.105 para 3.6.55
- 147 Department of Transport 1984B, para 16
- 148 H. M. Treasury 1986, p.136 para 3.8.59
- 149 H. M. Treasury 1987, p.141 para 3.8.48; cf Department of Transport 1987A para 2.16
- 150 see annual Rate Support Grant Reports for England published by the Department of Environment, 1984-1987
- 151 House of Commons Transport Committee 1987, para 38
- 152 *ibid.* para 28
- 153 House of Commons Transport Committee 1986, para 47
- 154 see sections 1 and 2.5
- 155 H. M. Treasury 1988 para 8.51; Association of Metropolitan Authorities 1987 para 32.
- 156 This estimate is based on CIPFA data on estimated block grant entitlement based on authorities budgets; see 'Finance and General Statistics' for 1984/85 and 1985/86, CIPFA.
- 157 Hereford and Worcester C C 1985/86 Revenue Budget, p.9-14

- 158 Avon County Council 1986/87 TPP Submission, para 5.14
- 159 Kent County Council 1986/87 TPP Submission, para 3.20
- 160 Cleveland County Council 1985/86 Revenue Budget
- 161 'Government White Paper: Policy for Roads in England 1987'. Report to West Midlands Regional Forum, 26th June 1987
- 162 'Finance and General Statistics 1986/87'. CIPFA
- 163 Manchester City Council 1988/89 TPP Submission, para 10.2
- 164 Sheffield City Council 1987/88 TPP Submission, para 3.9 and Table 1
- 165 see note 162
- 166 The adopted programme outlined in the Council's 1988/89 TPP Submission (para 2.26 and Table 1) is compared with the programme proposed in the 1987/88 TPP Submission (section 4)
- 167 CIPFA estimates cf note 162
- 168 Birmingham City Council 1987/88 and 1988/89 TPP Submissions, chapters 3 and 7
- 169 Solihull Metropolitan Council 1988/89 TPP Submission, para 4.9
- 170 Avon County Council 1987/88 TPP Submission, para 6.16
- 171 Hereford and Worcester C C 1986/87 Revenue Budget, paras 22-23, p.7-8
- 172 ibid. paras 27-32, p.H1
- 173 see above section 3.2.3
- 174 Cleveland County Council 1987/88 TPP Submission, para 4.4; 1986/87 Revenue Budget, para 4.4
- 175 Cleveland County Council 1987/88 Revenue Budget, para 26.11
- 176 'Finance and General Statistics' 1987/88, CIPFA
- 177 Norfolk County Council 1988/89 TPP Submission, para 7.3.1
- 178 Cleveland County Council 1987/88 TPP Submission, para 4.4; 1988/89 TPP Submission, para 4.4
- 179 Birmingham City Council 1988/89 TPP Submission, para 7.9.1.

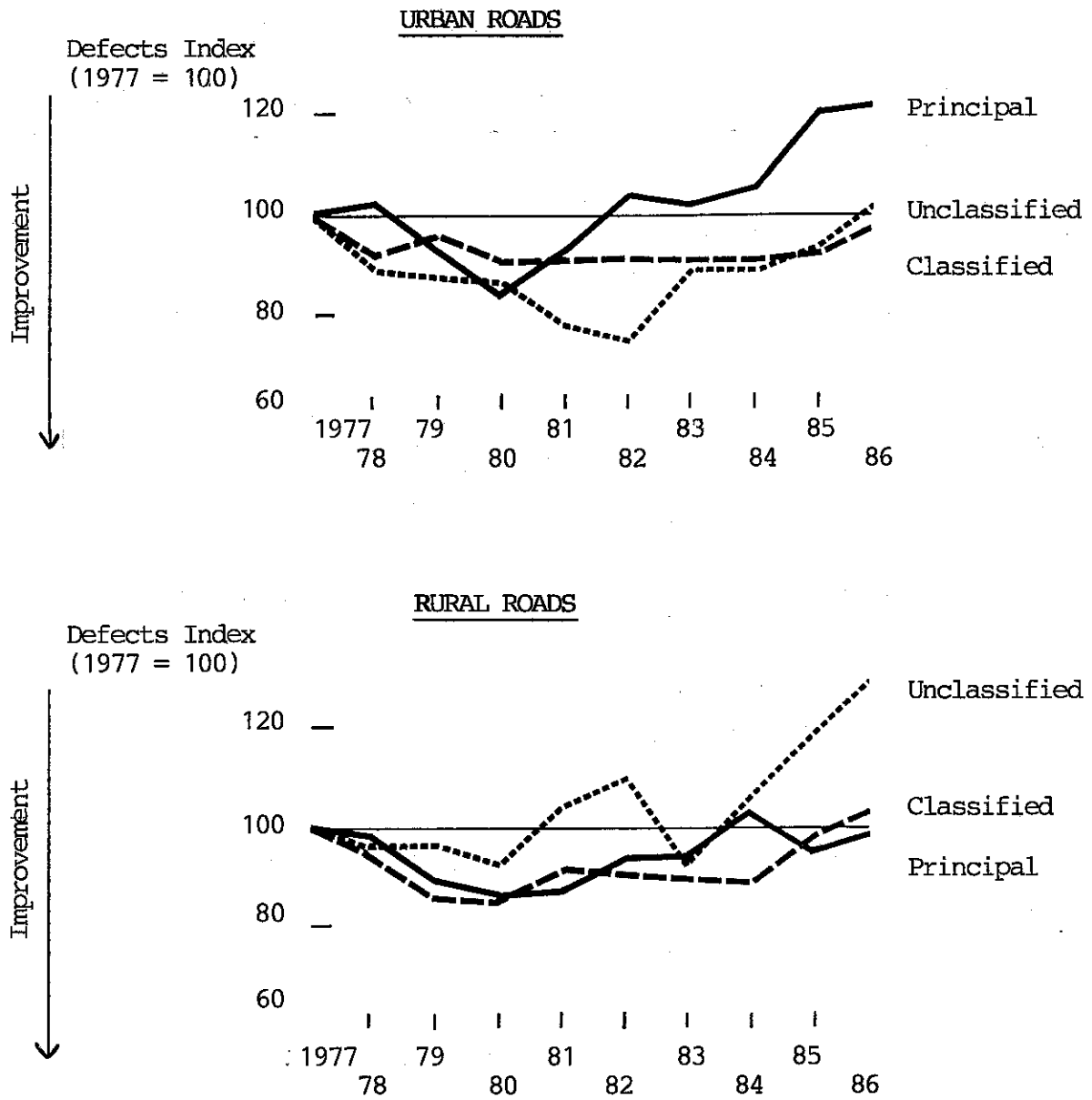
- 180 Audit Commission 1988A, 1988B
- 181 see the discussion in section 2.4 above
- 182 Kent County Council 1987/88 TPP Submission, para 3.21
- 183 Manchester City Council 1988/89 TPP Submission, paras 10.3 and 19.3, Table 2; cf. Sanderson 1988C p.37
- 184 Department of Transport 1987A, para 2.16
- 185 H. M. Treasury 1988, para 8.51
- 186 'Financing of Roads in the West Midlands Region' Report to West Midlands Regional Forum, Department of Public Works, Dudley MDC, April 1987
- 187 Audit Commission 1988B, para 155
- 188 see section 3.3.1 above
- 189 Manchester City Council 1988/89 TPP Submission, paras 10.2 and 10.9; Sheffield City Council 1987/88 TPP Submission, para 3.9  
190Widdicombe (1986) Chapter 3
- 191 House of Commons Transport Committee (1983) para 47.
- 192 *ibid.* para 54
- 193 see the discussion in section 2.4 above
- 194 see Sanderson 1988A, section 3.4

**FIGURE 1: TRENDS IN EXPENDITURE, AVERAGE EARNINGS AND MANUAL EMPLOYEES: ENGLISH LOCAL AUTHORITIES 1979-1987**



Source: Dept of Employment New Earnings Survey; Dept of the Environment Local Government Financial Statistics.

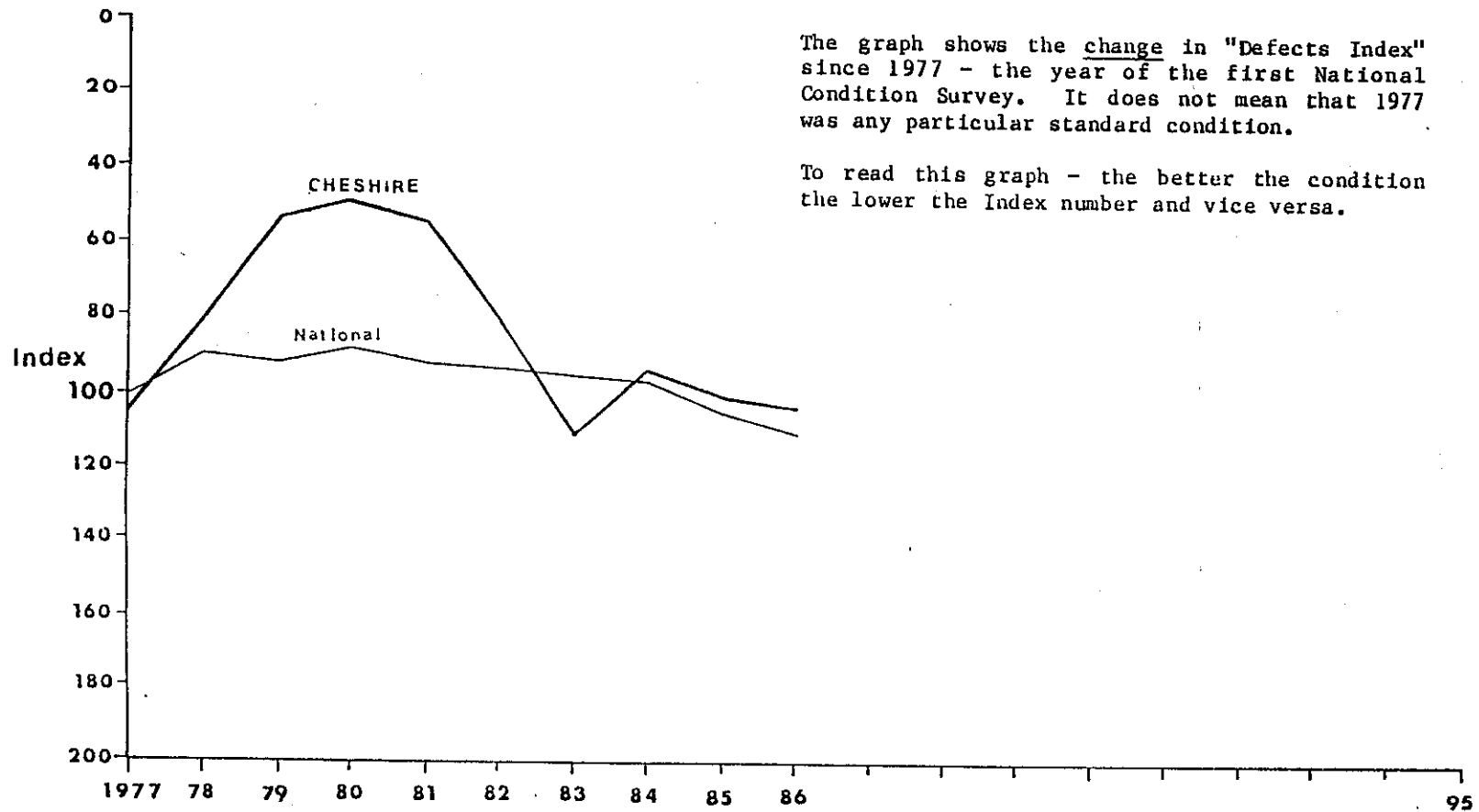
**FIGURE 2: ROAD MAINTENANCE DEFECTS INDICES: LOCAL AUTHORITY ROADS IN ENGLAND AND WALES**



**NOTE:** Defects Indices are averages for each year

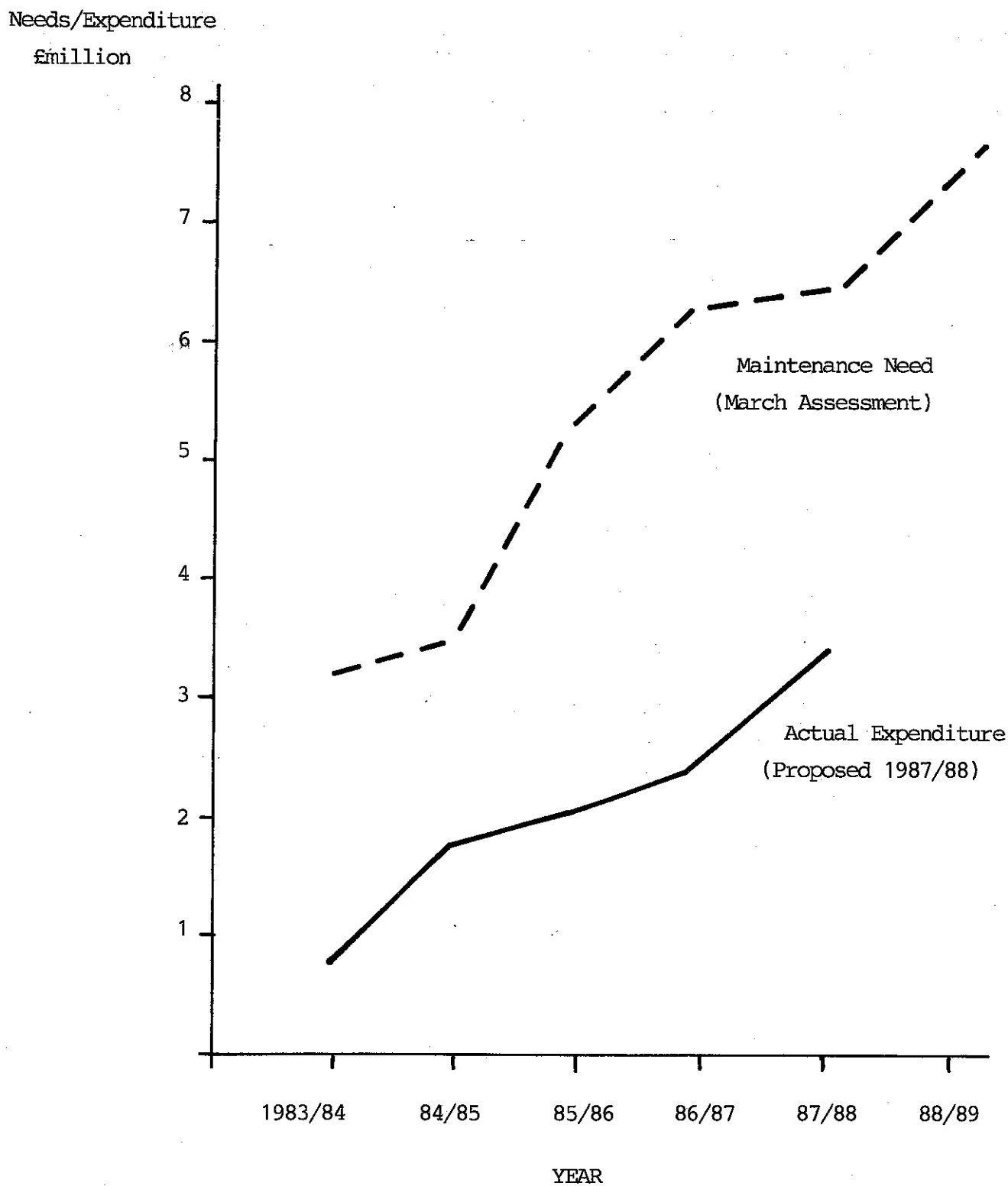
**Source:** National Road Maintenance Condition Survey 1986.

FIGURE 3a: CHESHIRE CC: Trends in Maintenance condition of Average Road 1977-86



Source: Cheshire CC: TPP Submission n° 14 (1988/89).

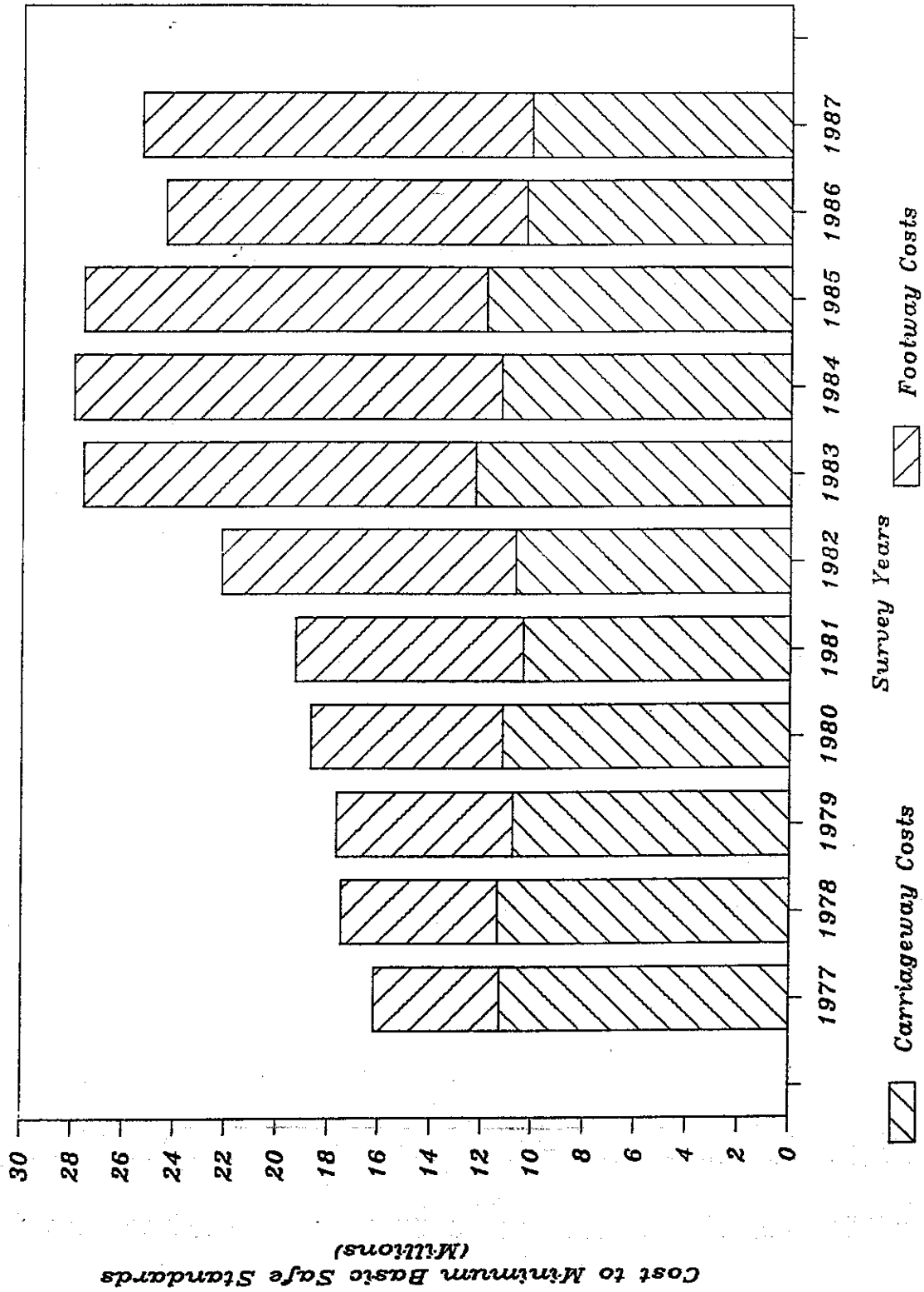
**FIGURE 3b: DUDLEY MBC: ROAD MAINTENANCE NEEDS AND EXPENDITURE**  
1983/84 - 1988/89



Source: see Notes on Text n<sup>o</sup> 52.



**FIGURE 3c: AVON CC ROAD MAINTENANCE 10% RANDOM SAMPLE SURVEY RESULTS 1977-87 (Costs in Nov 1986 prices)**

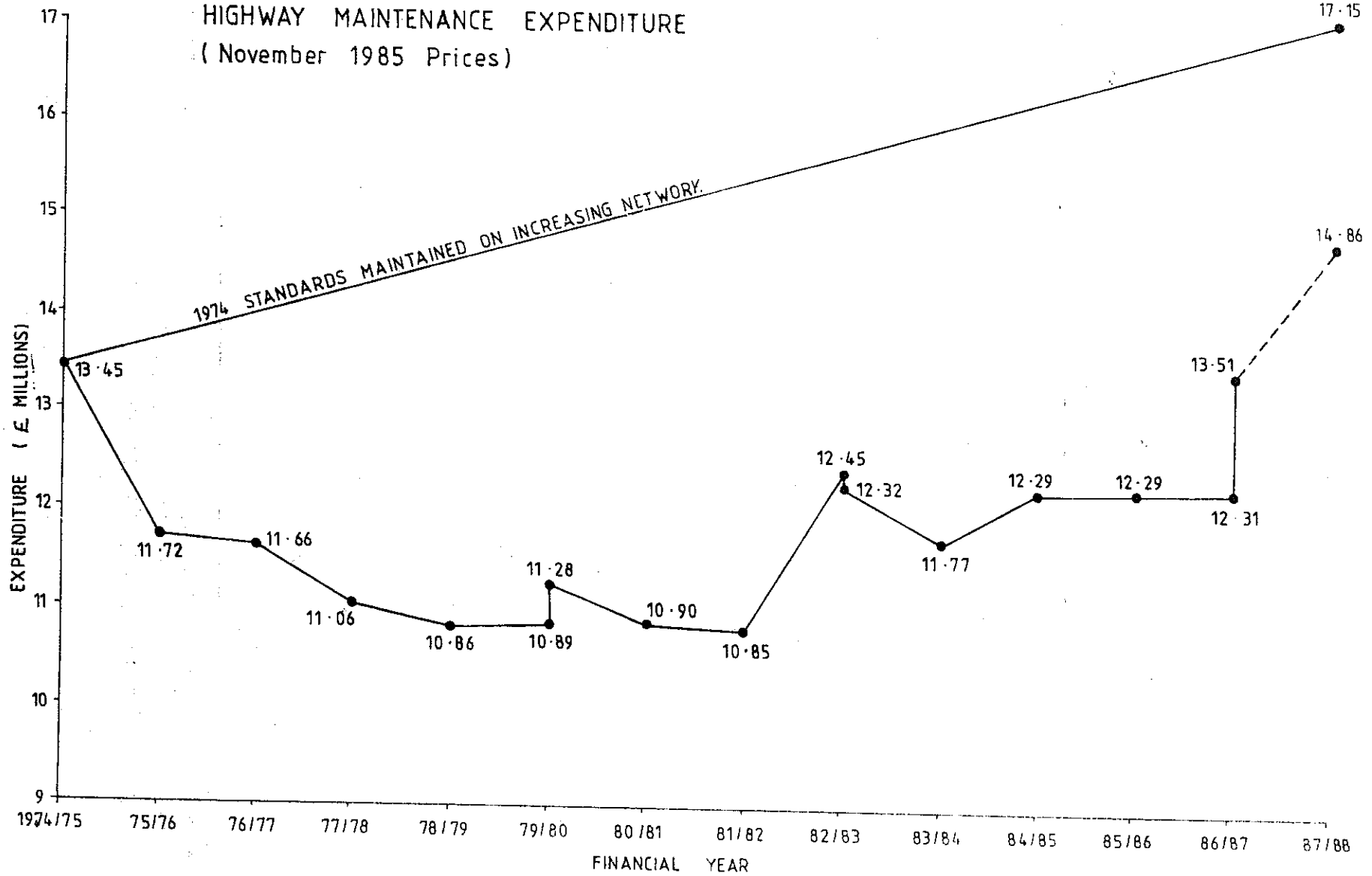


Source: Avon CC 1988-89 TPP Submission.

FIGURE 3d:

# CLEVELAND COUNTY

HIGHWAY MAINTENANCE EXPENDITURE  
(November 1985 Prices)



Source: Cleveland CC 1987-88 TPP Submission

FIGURE 4

LOCAL ROAD MAINTENANCE EXPENDITURE AND PROVISION

ENGLAND 1979/80-1987/88

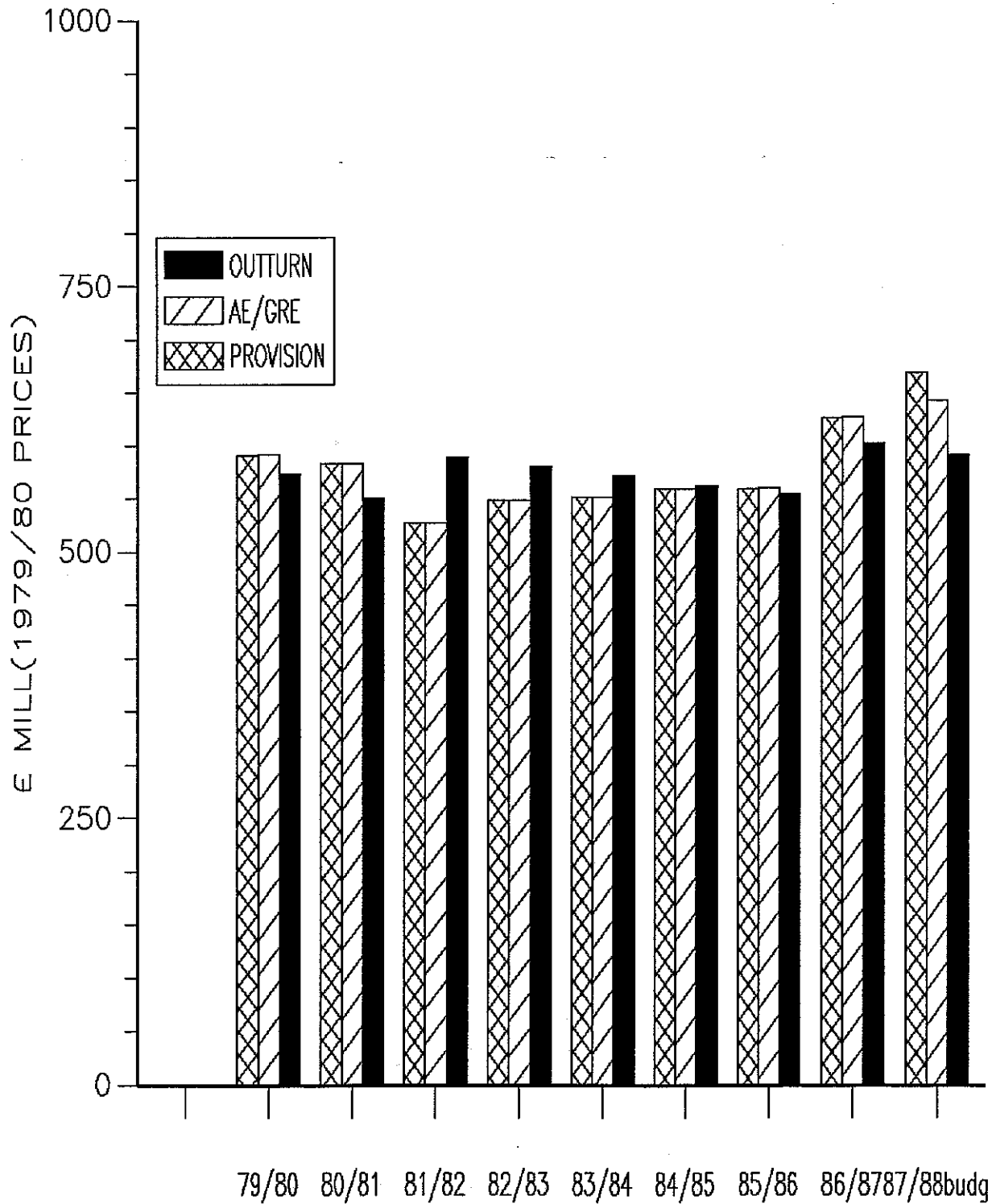


FIGURE 5a

LOCAL ROAD MAINTENANCE EXPENDITURE AND PROVISION  
ENGLAND 1981/82-1987/88

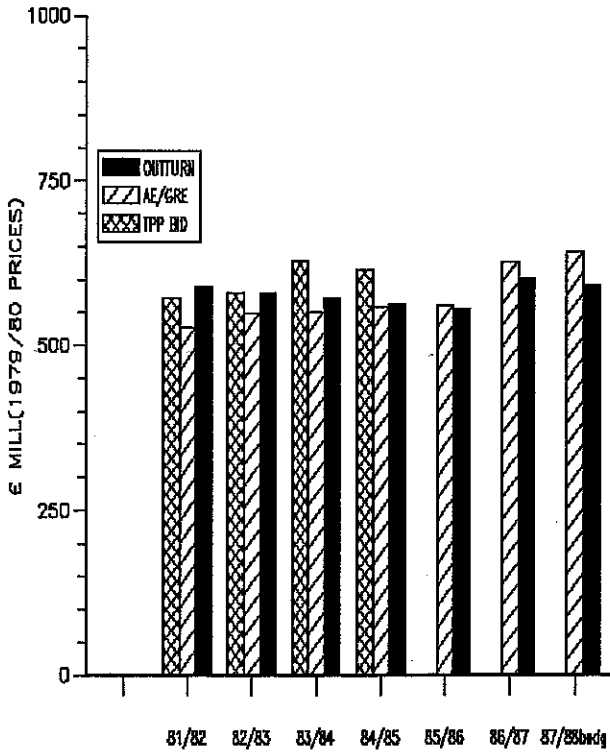


FIGURE 5b

LOCAL ROAD MAINTENANCE EXPENDITURE AND PROVISION  
LONDON 1981/82-1987/88

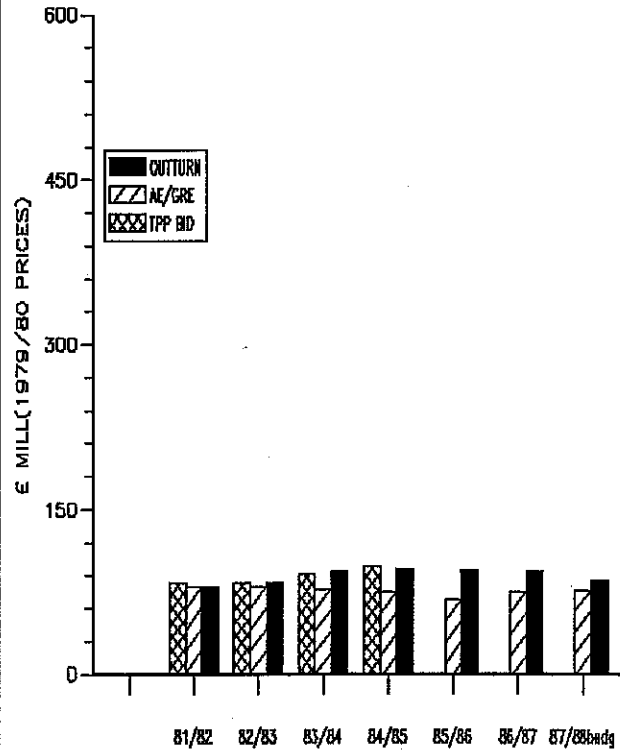


FIGURE 5c

LOCAL ROAD MAINTENANCE EXPENDITURE AND PROVISION  
METROPOLITAN AREAS 1981/82-1987/88

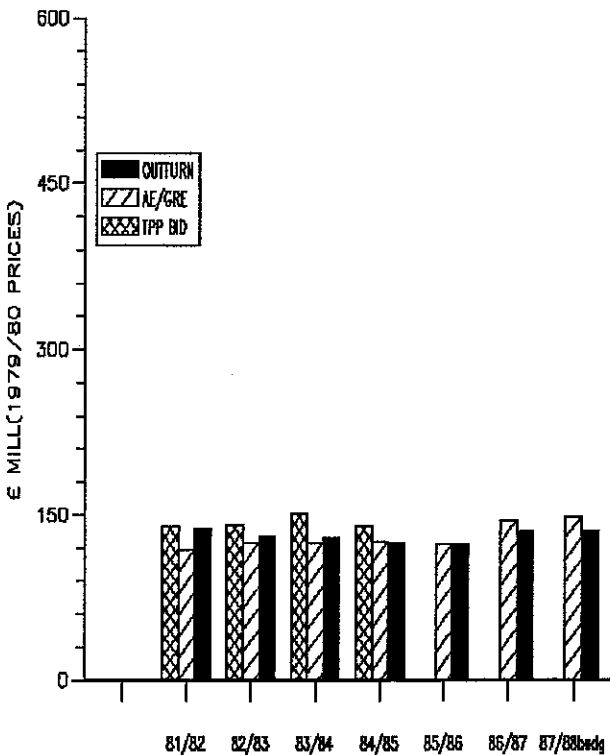


FIGURE 5d

LOCAL ROAD MAINTENANCE EXPENDITURE AND PROVISION  
SHIRE AREAS 1981/82-1987/88

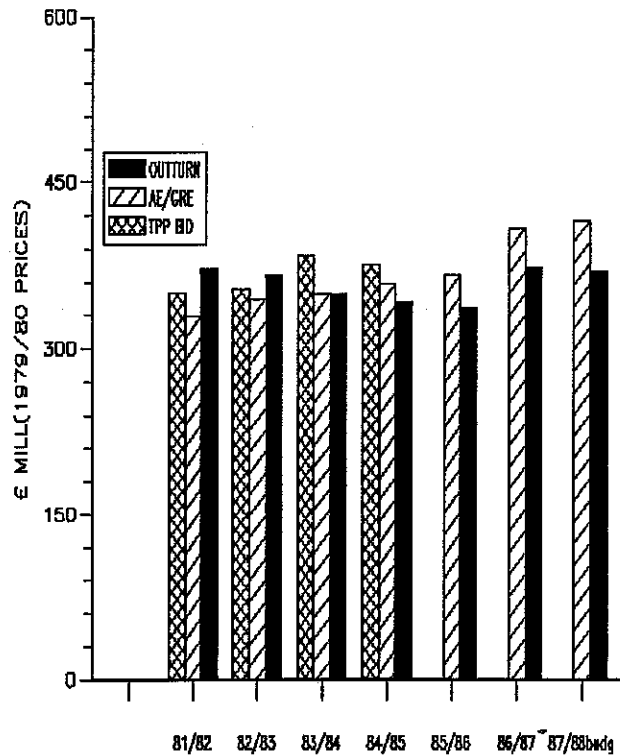


FIGURE 6a  
ROAD MAINTENANCE: BID, PROVISION AND OUTTURN  
GREATER MANCHESTER MCC 1981/82-1985/86

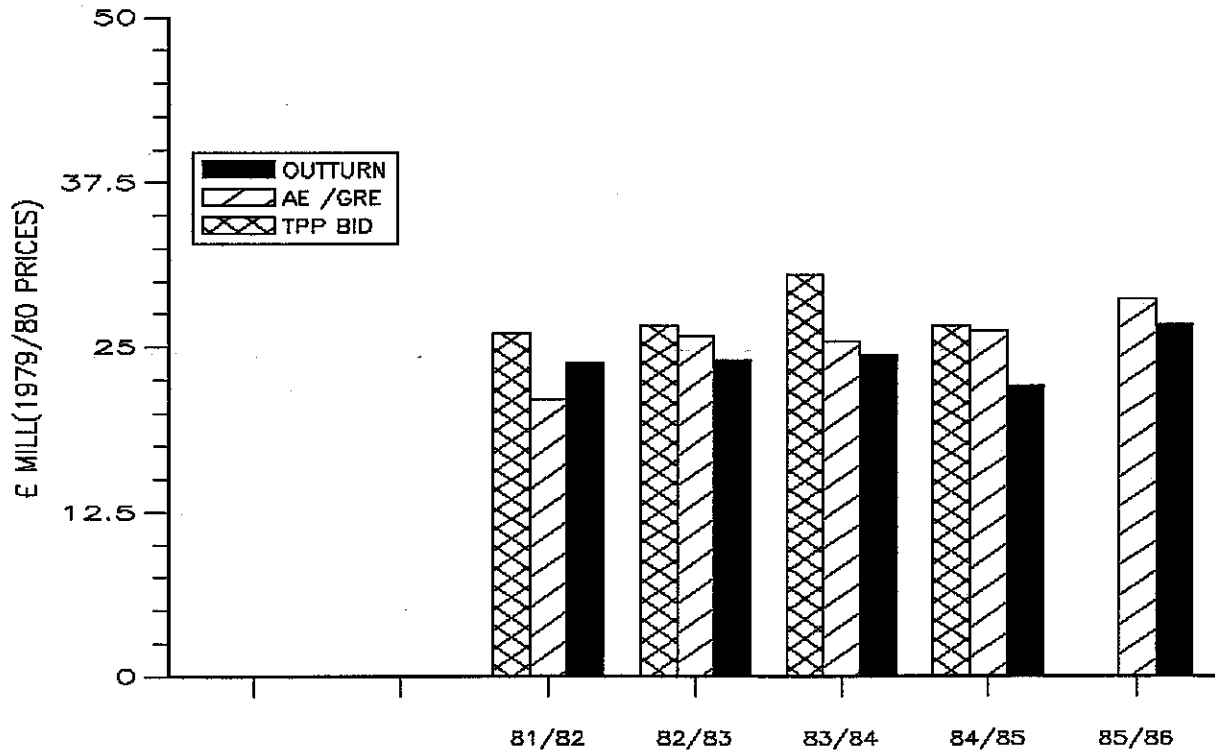


FIGURE 6b  
LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85  
GREATER MANCHESTER MCC

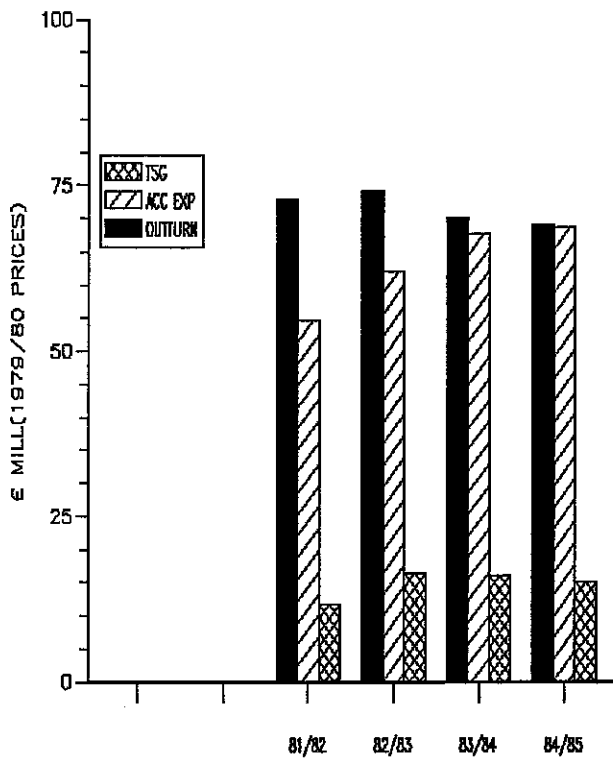


FIGURE 6c  
TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86  
GREATER MANCHESTER MCC

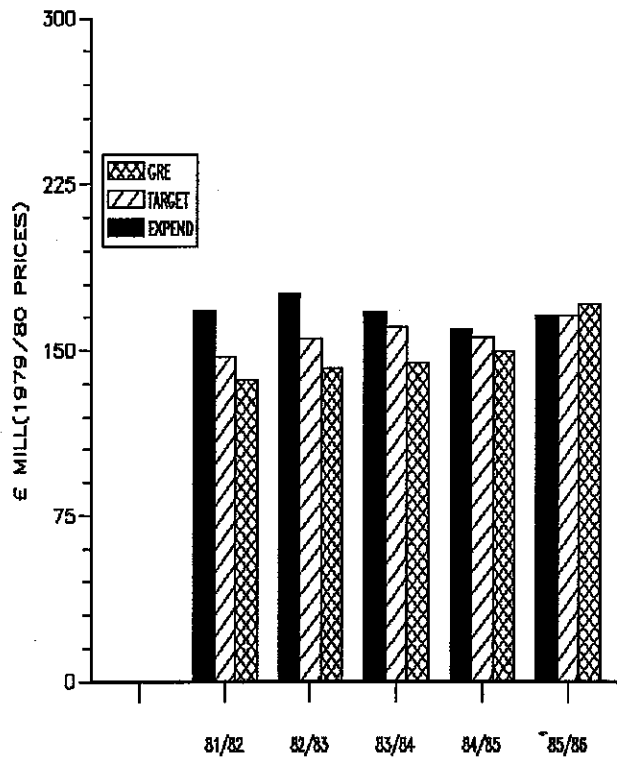


FIGURE 7a  
ROAD MAINTENANCE: BID, PROVISION AND OUTTURN  
SOUTH YORKSHIRE MCC 1981/82-1985/86

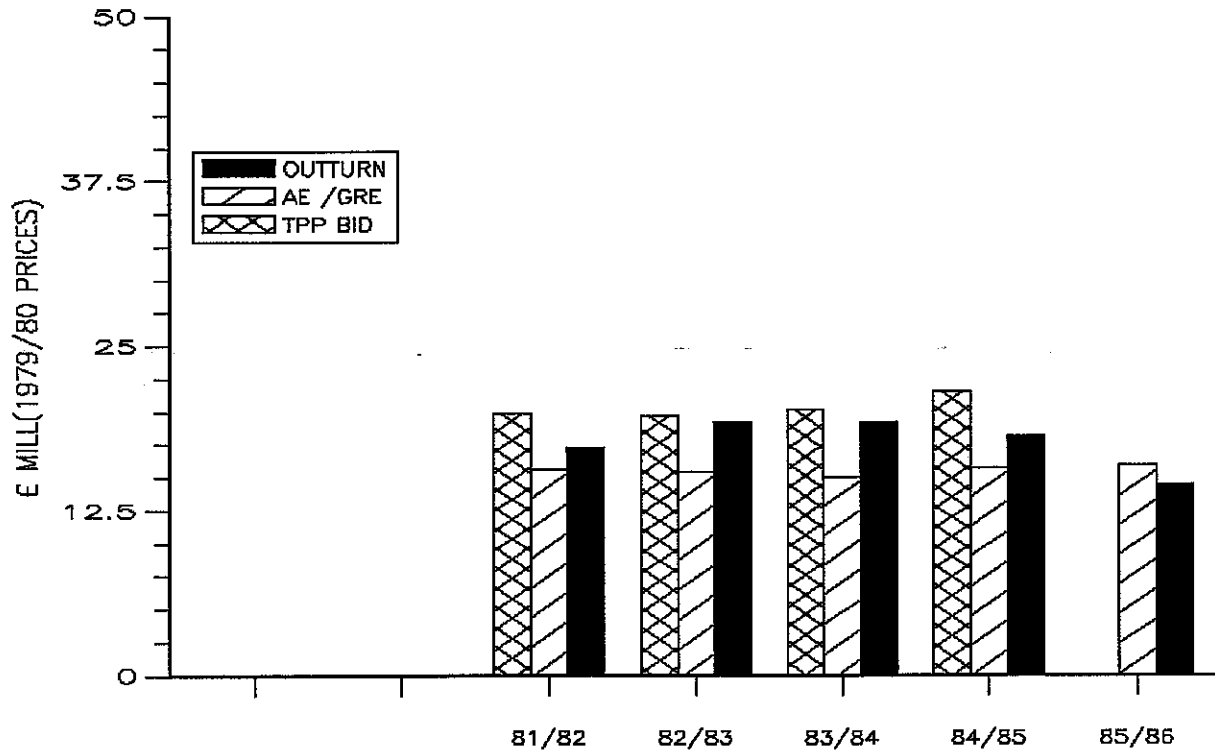


FIGURE 7b  
LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85  
SOUTH YORKSHIRE MCC

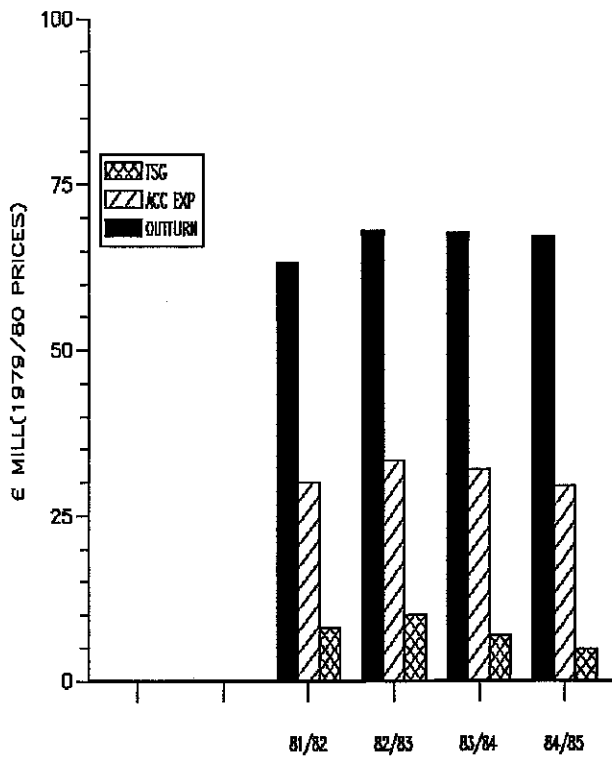


FIGURE 7c  
TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86  
SOUTH YORKSHIRE MCC

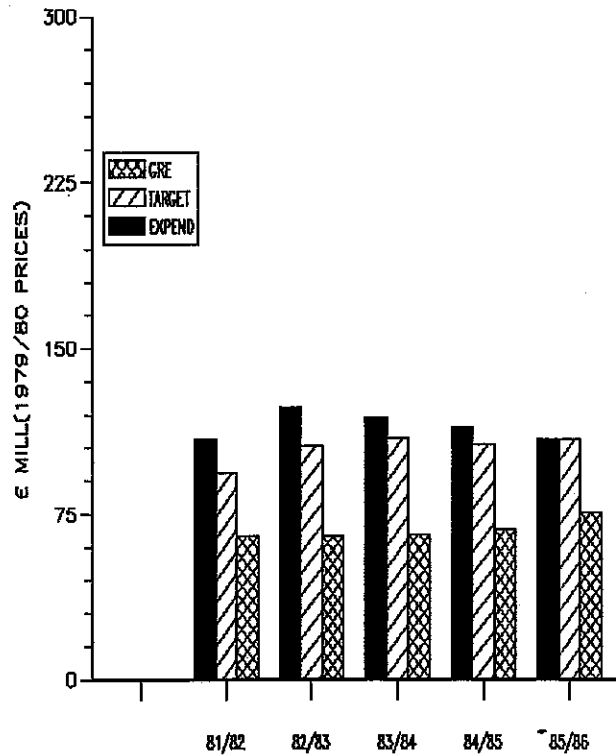


FIGURE 8a  
ROAD MAINTENANCE: BID, PROVISION AND OUTTURN  
WEST MIDLANDS MCC 1981/82-1985/86

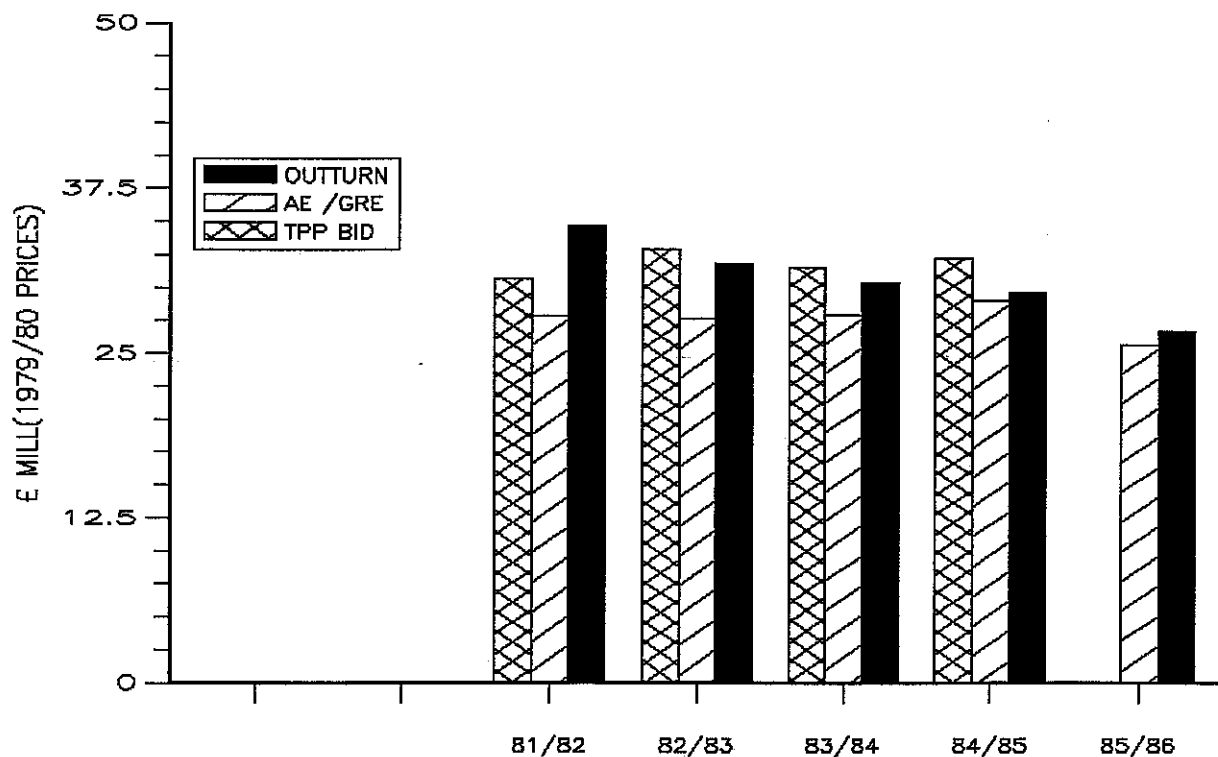


FIGURE 8b  
LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85  
WEST MIDLANDS MCC

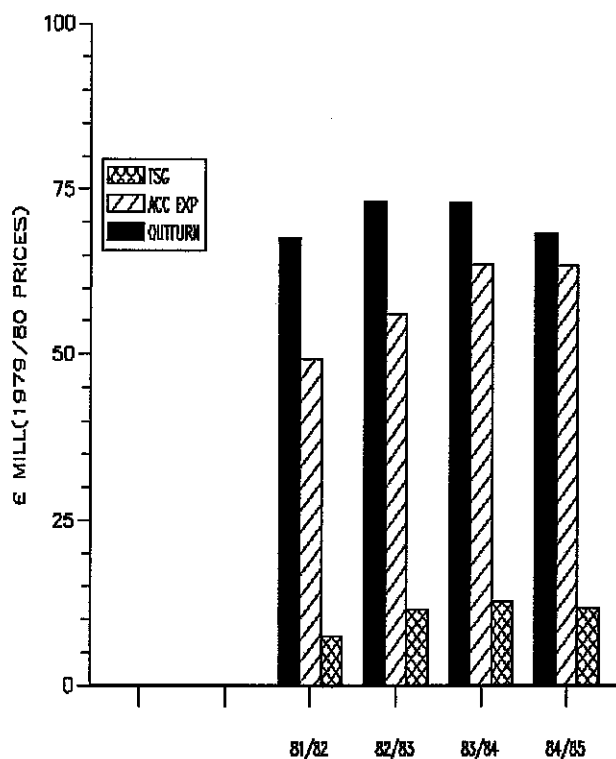


FIGURE 8c  
TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86  
WEST MIDLANDS MCC

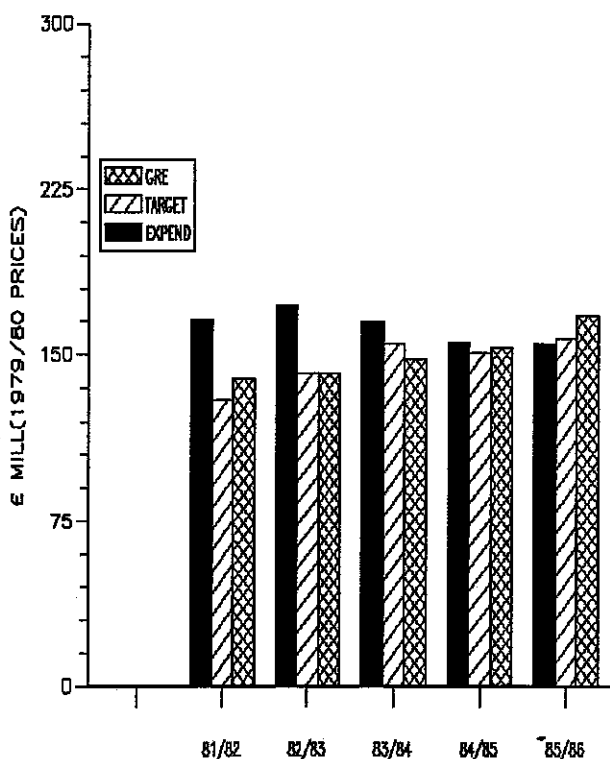


FIGURE 9a  
ROAD MAINTENANCE: BID, PROVISION AND OUTTURN  
AVON CC 1981/82-1987/88

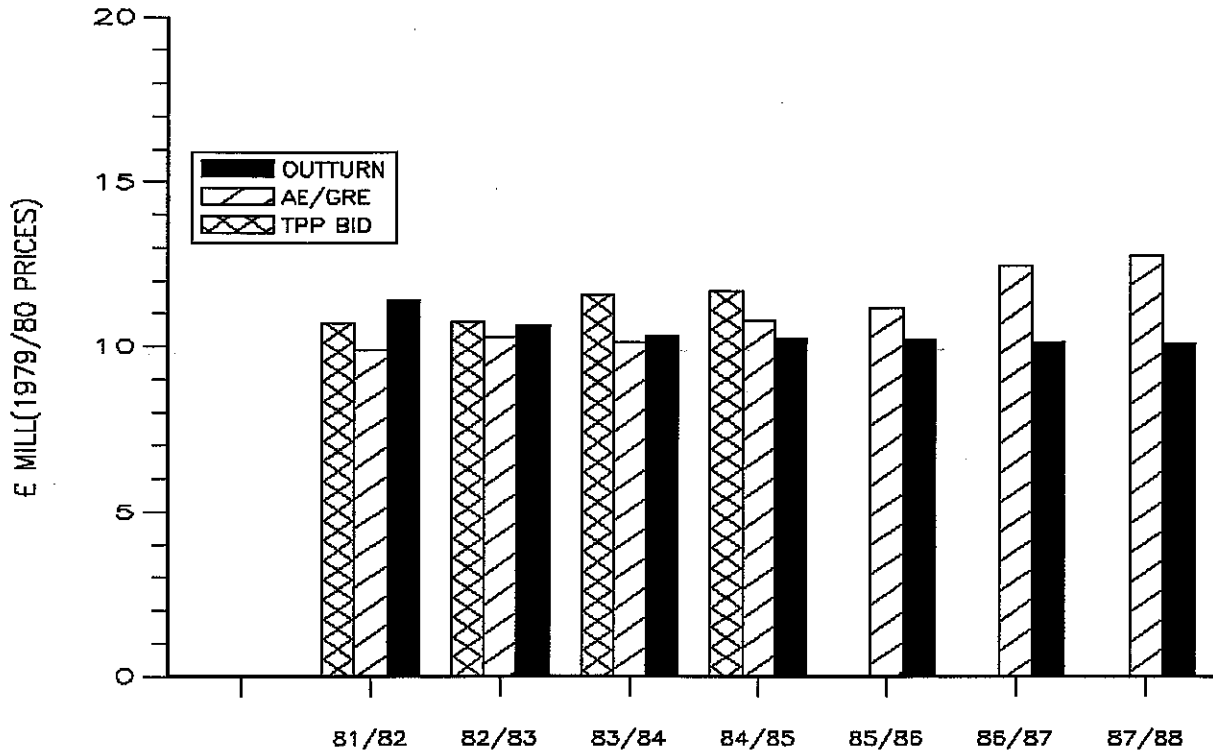


FIGURE 9b  
LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85  
AVON CC

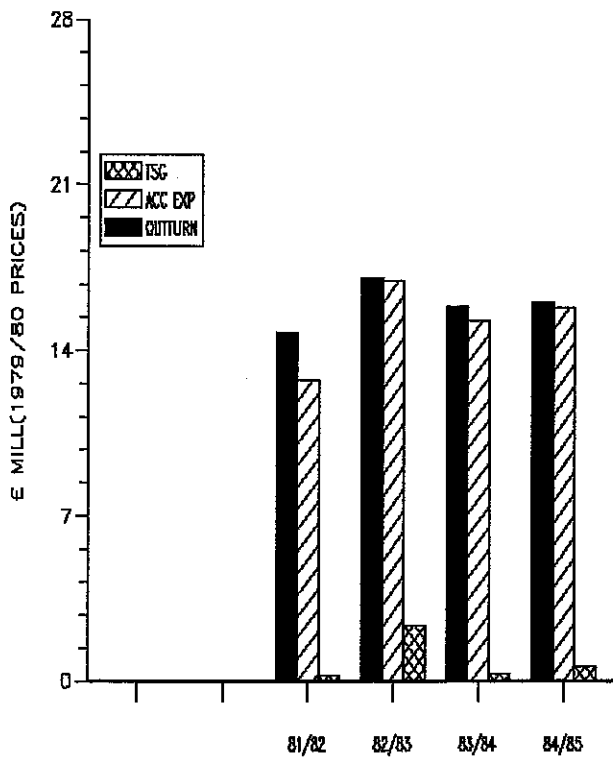


FIGURE 9c  
TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86  
AVON CC

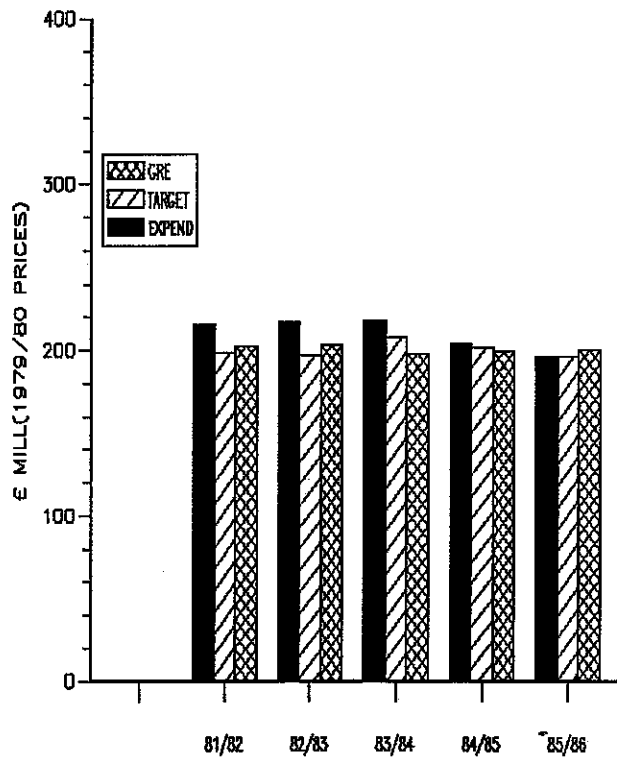




FIGURE 10a  
ROAD MAINTENANCE: BID, PROVISION AND OUTTURN  
CHESHIRE CC 1981/82-1987/88

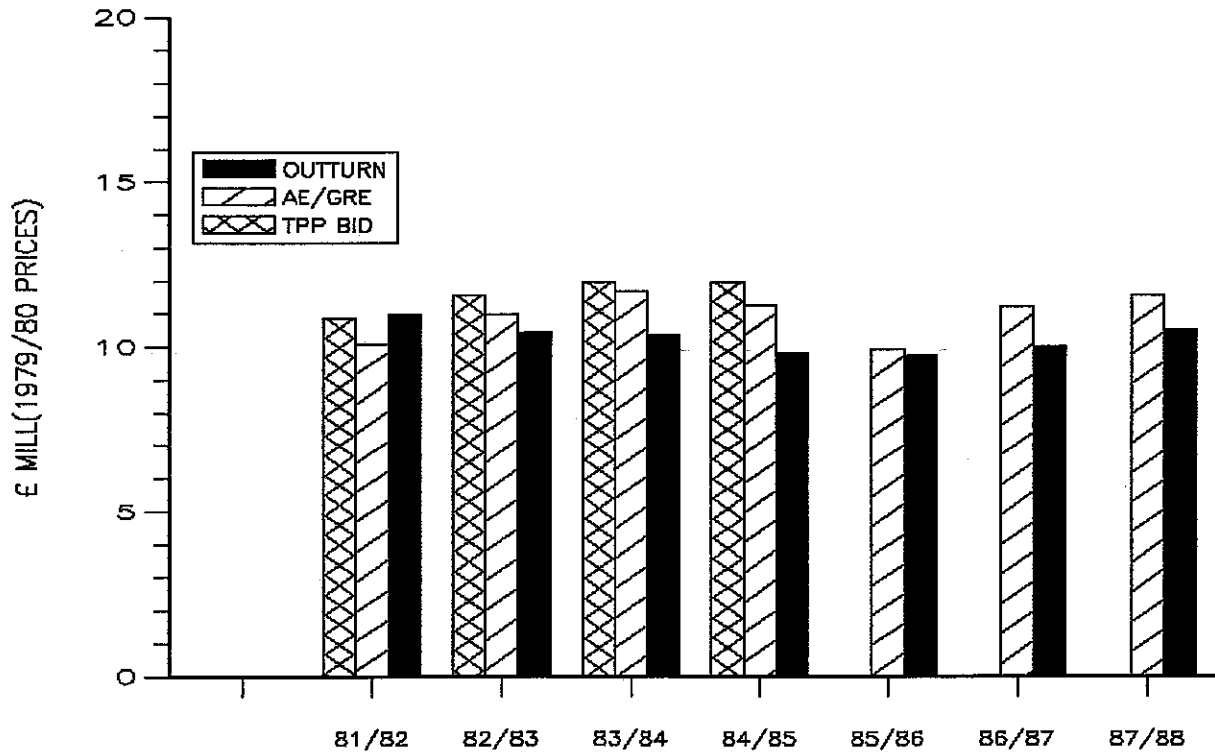


FIGURE 10b  
LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85  
CHESHIRE CC

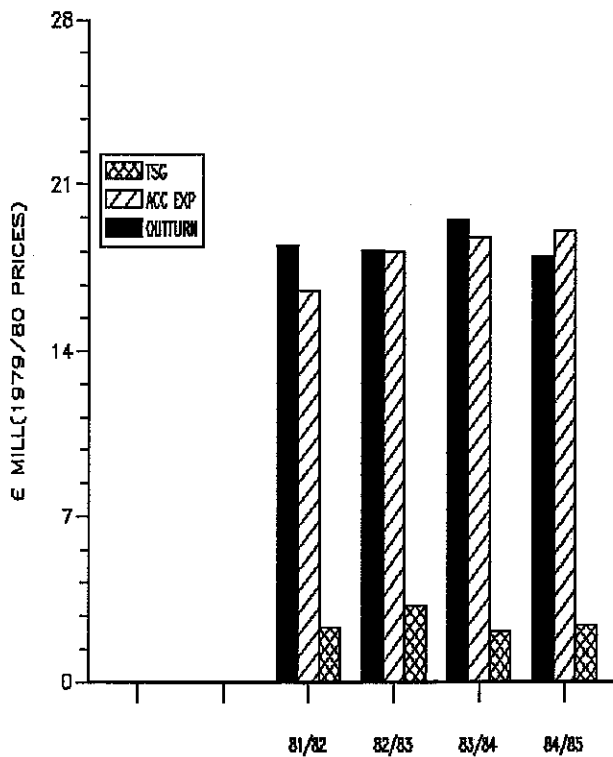


FIGURE 10c  
TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86  
CHESHIRE CC

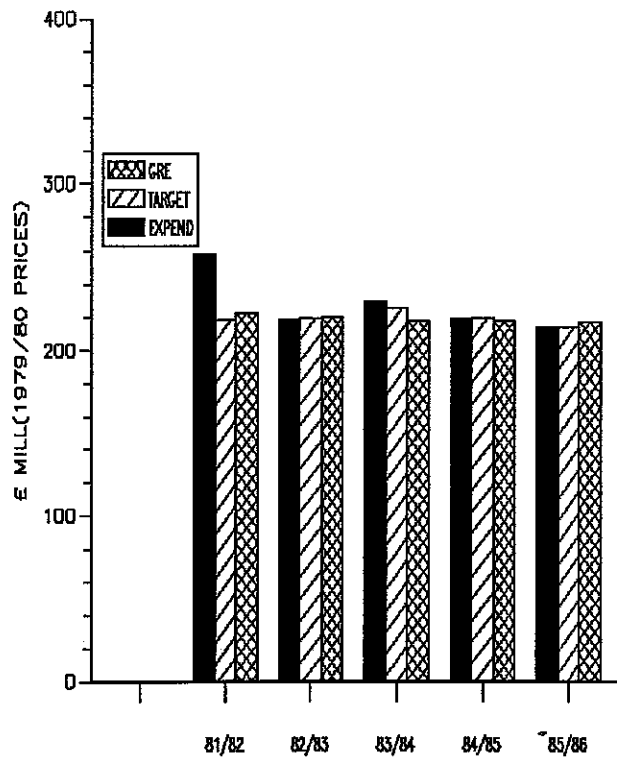


FIGURE 11a  
ROAD MAINTENANCE: BID, PROVISION AND OUTTURN  
CLEVELAND CC 1981/82-1987/88

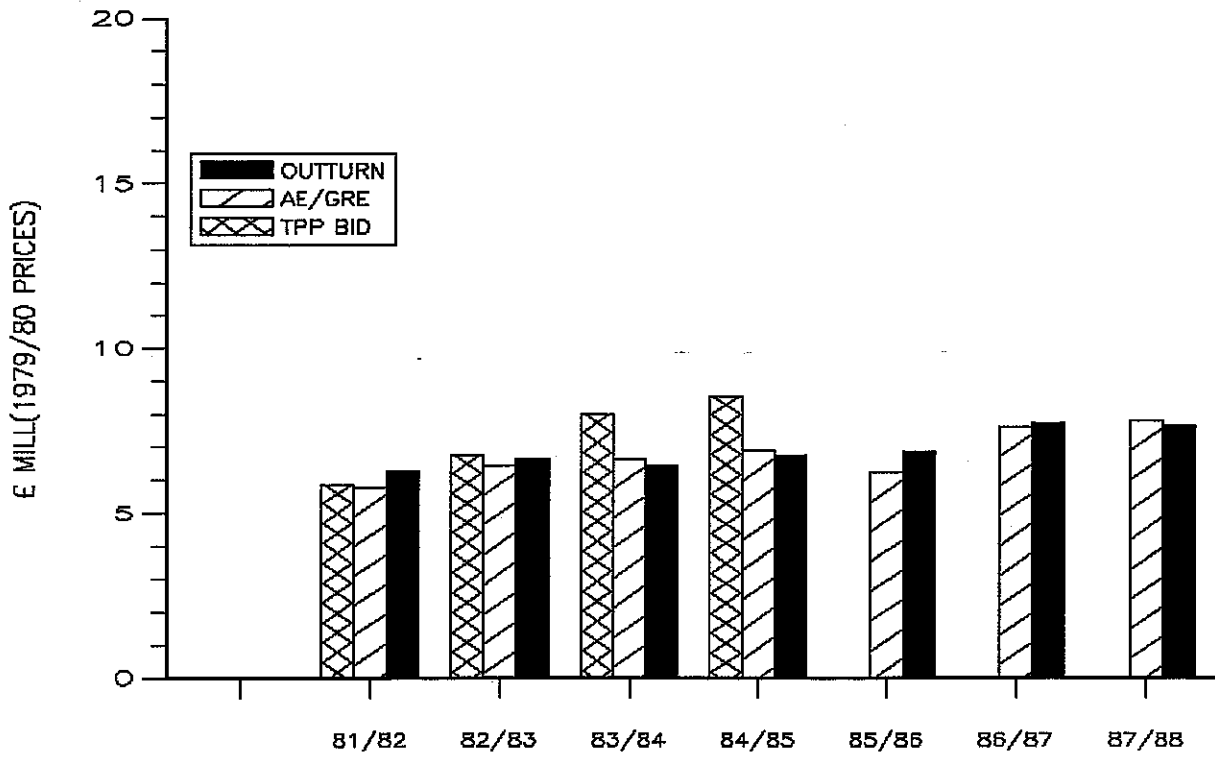


FIGURE 11b  
LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85  
CLEVELAND CC

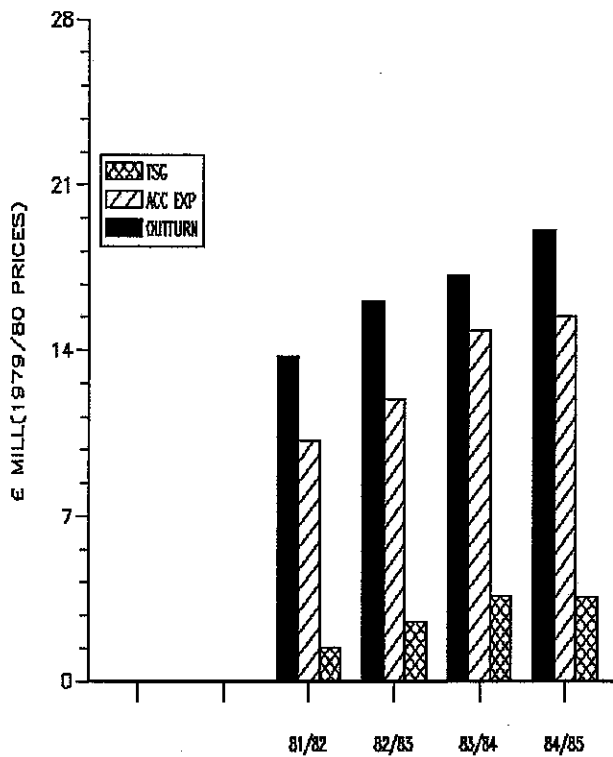


FIGURE 11c  
TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86  
CLEVELAND CC

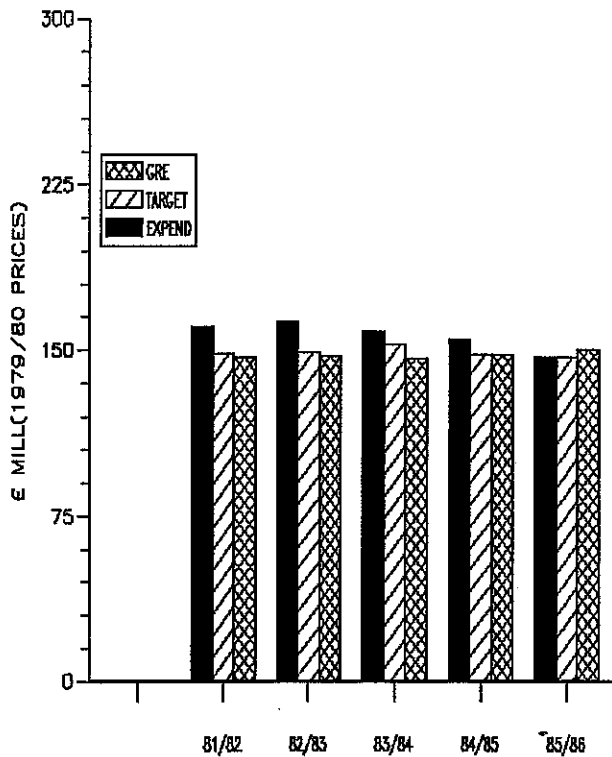


FIGURE 12a  
ROAD MAINTENANCE: BID, PROVISION AND OUTTURN  
CORNWALL CC 1981/82-1987/88

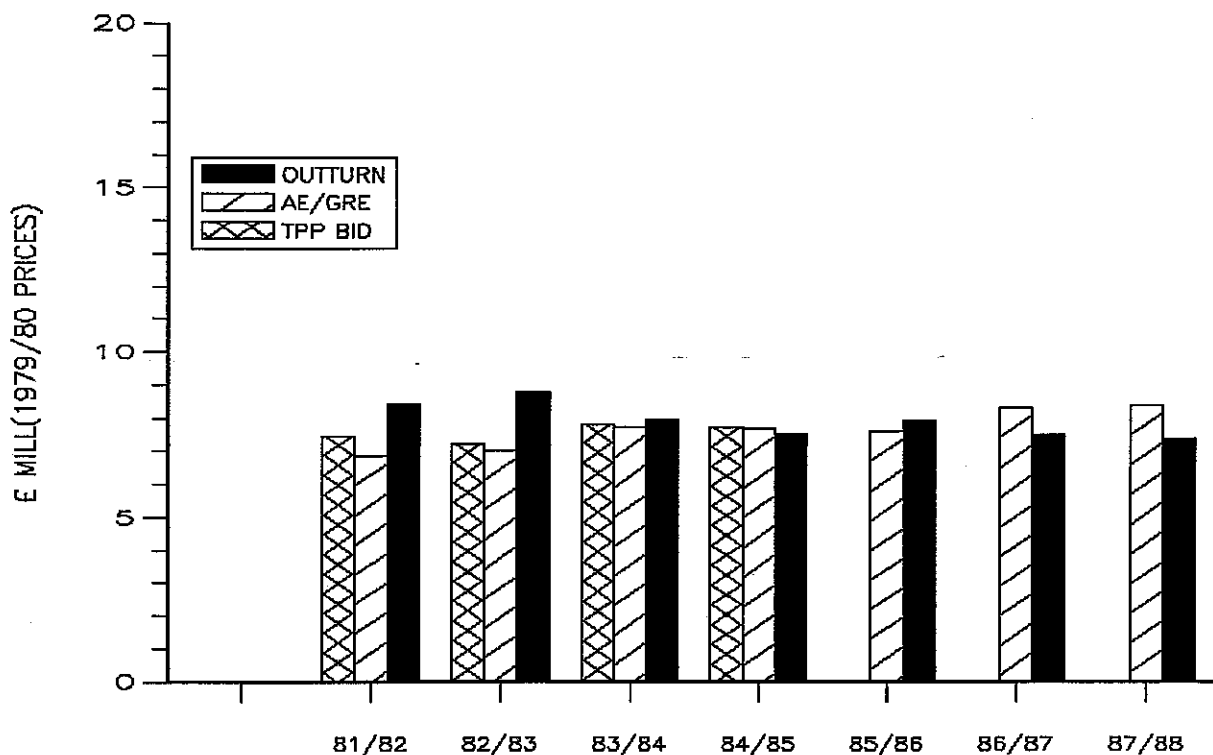


FIGURE 12b  
LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85  
CORNWALL CC

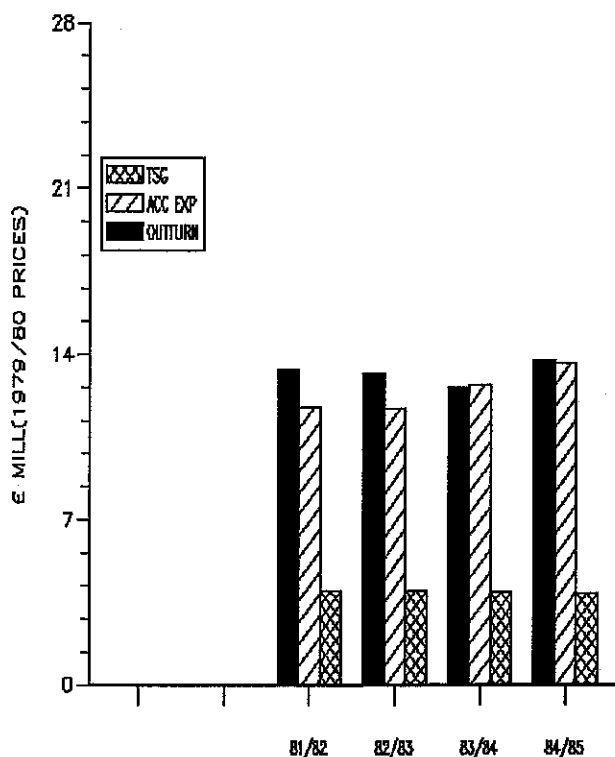


FIGURE 12c  
TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86  
CORNWALL CC

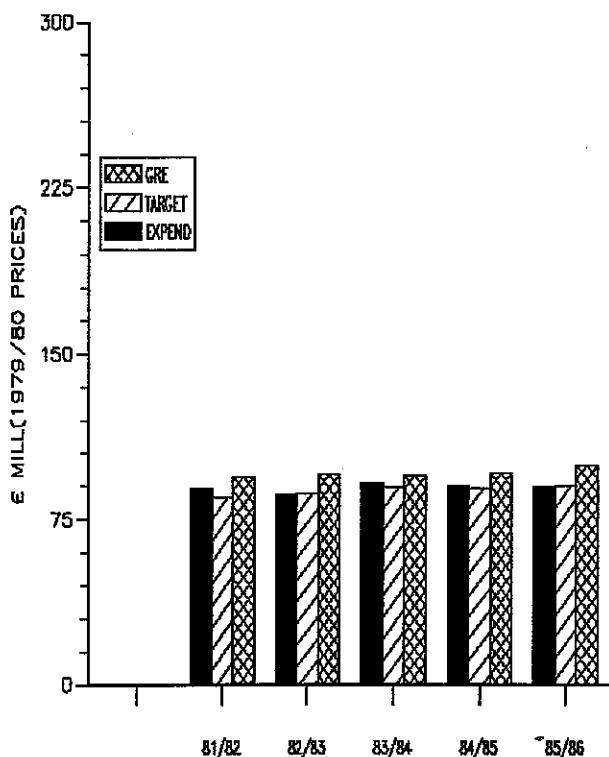


FIGURE 13a  
ROAD MAINTENANCE: BID, PROVISION AND OUTTURN  
HEREFORD AND WORCESTER CC 1981/82-1987/88

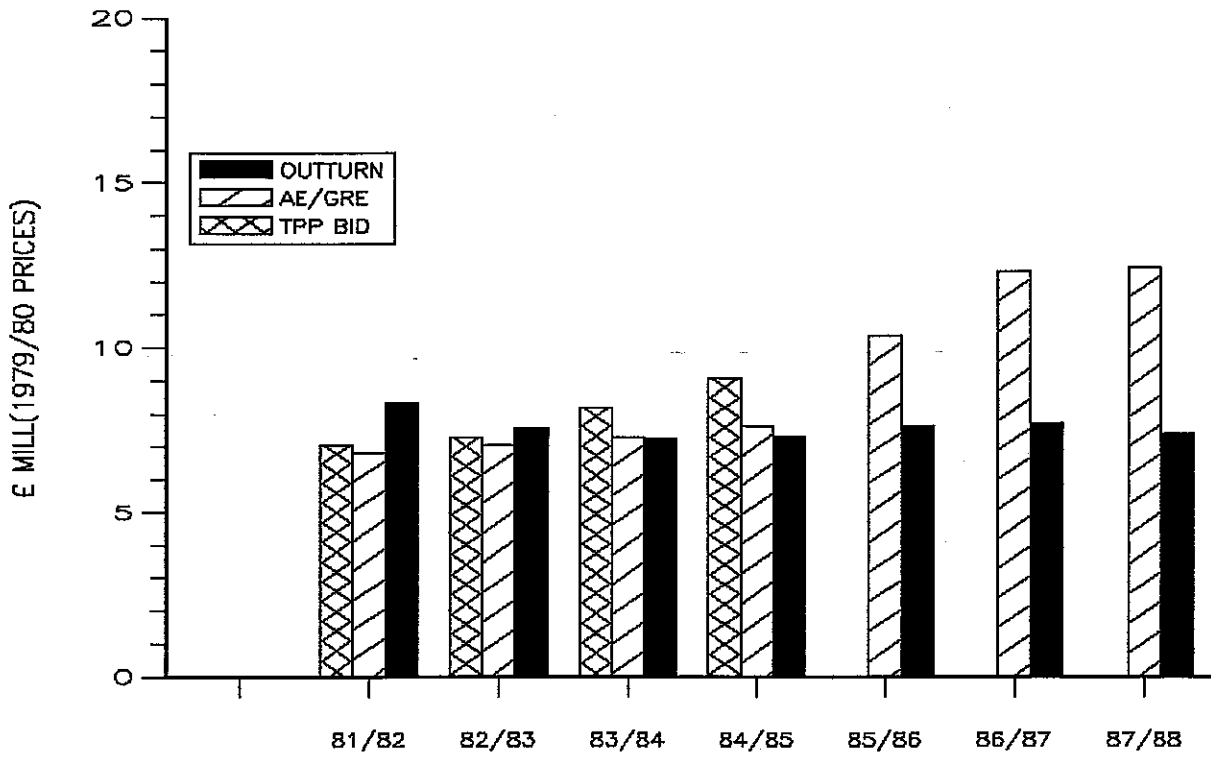


FIGURE 13b  
LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85  
HEREFORD AND WORCESTER CC

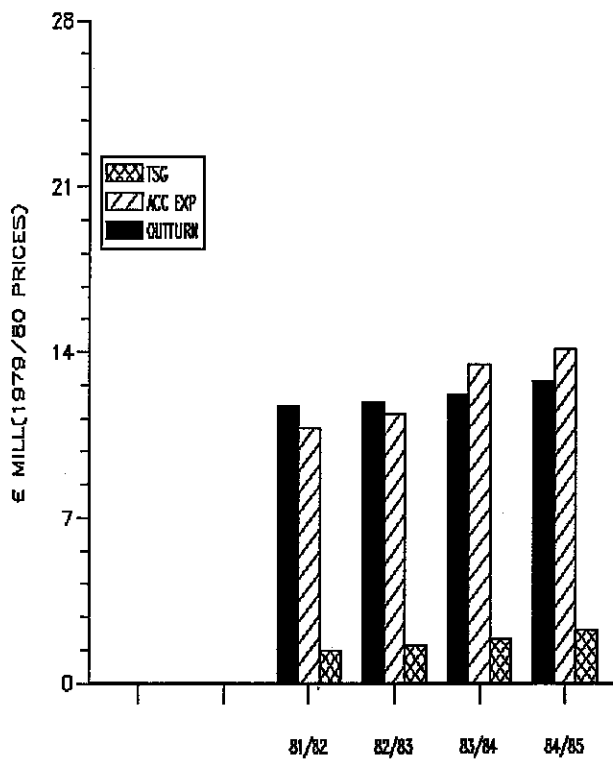
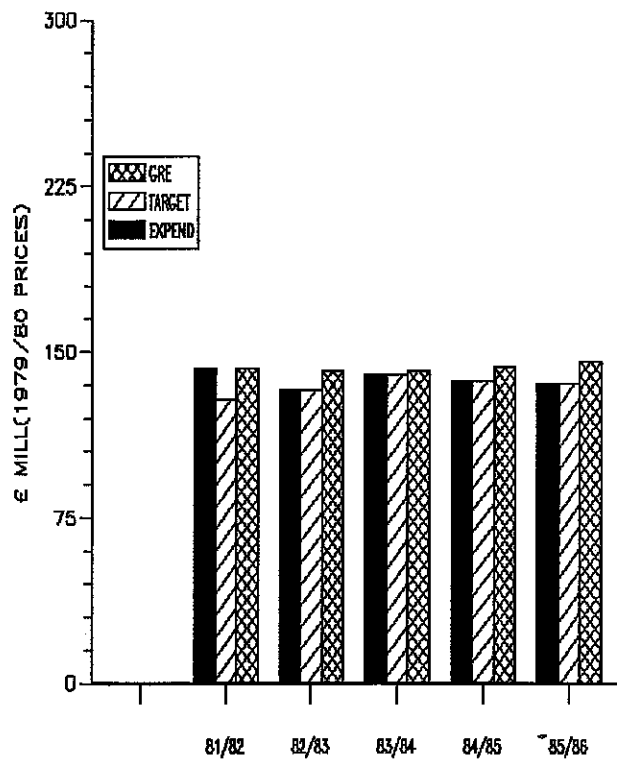
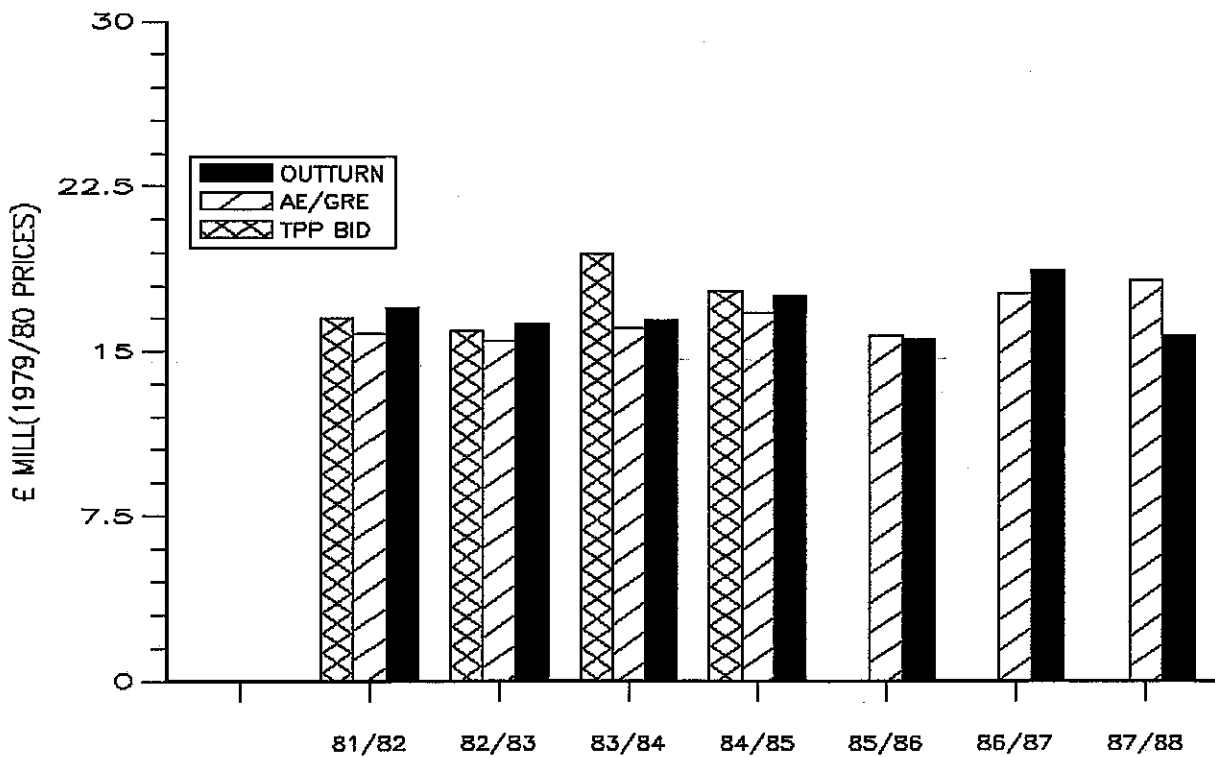


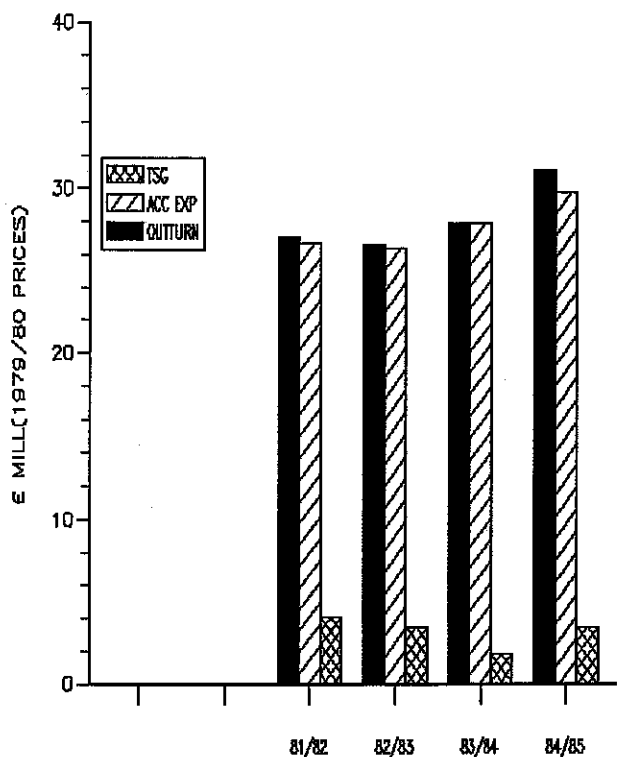
FIGURE 13c  
TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86  
HEREFORD AND WORCESTER CC



**FIGURE 14a**  
**ROAD MAINTENANCE: BID, PROVISION AND OUTTURN**  
**KENT CC 1981/82-1987/88**



**FIGURE 14b**  
**LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85**  
**KENT CC**



**FIGURE 14c**  
**TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86**  
**KENT CC**

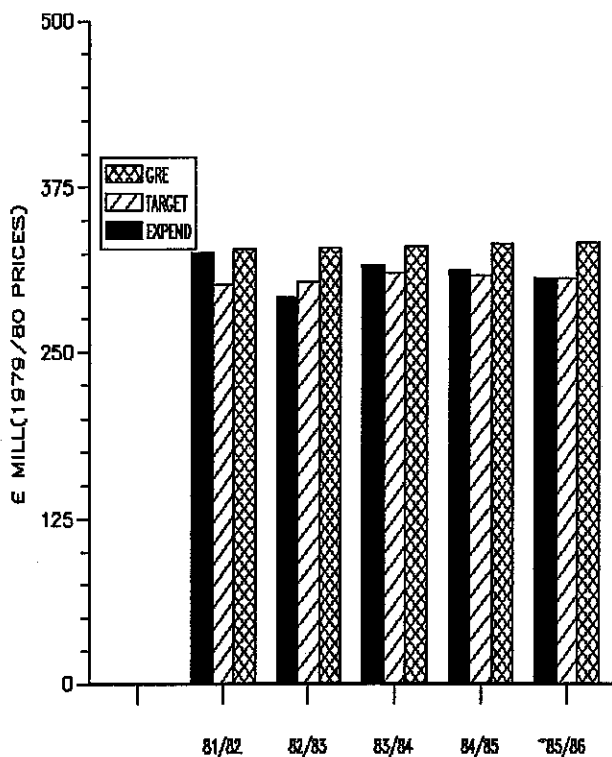


FIGURE 15a  
ROAD MAINTENANCE: BID, PROVISION AND OUTTURN  
NORFOLK CC 1981/82-1987/88

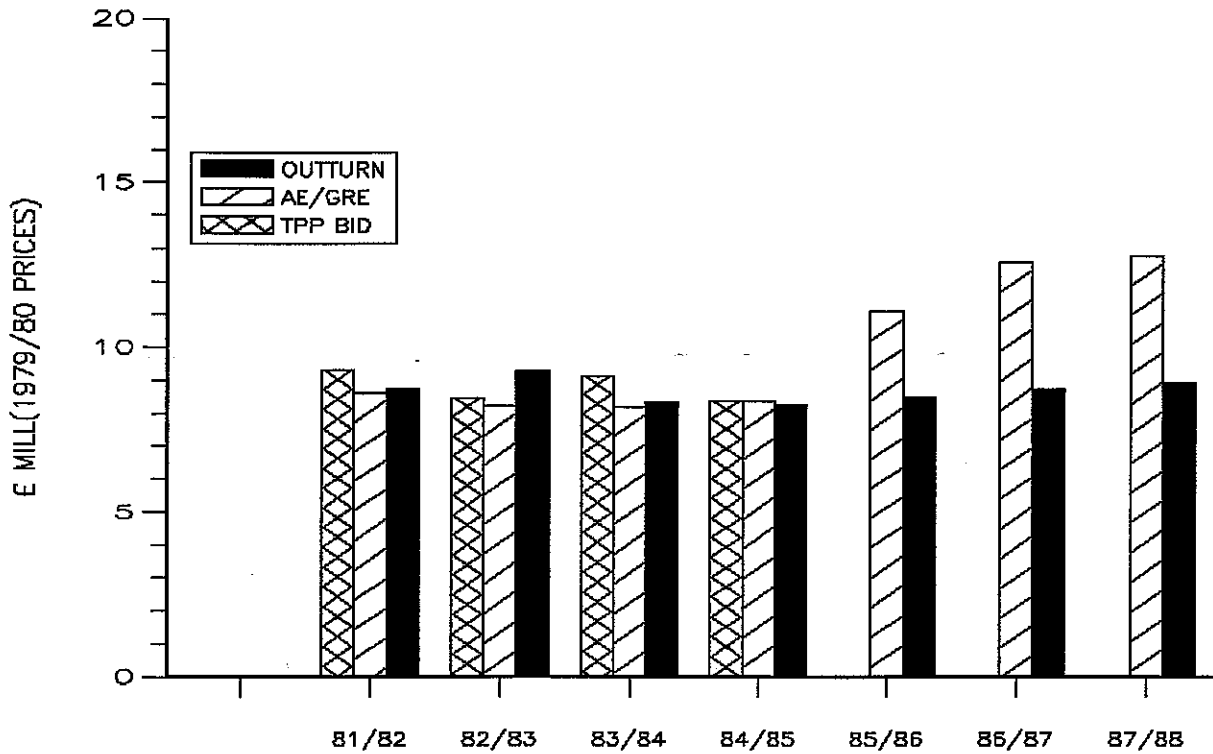


FIGURE 15b  
LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85  
NORFOLK CC

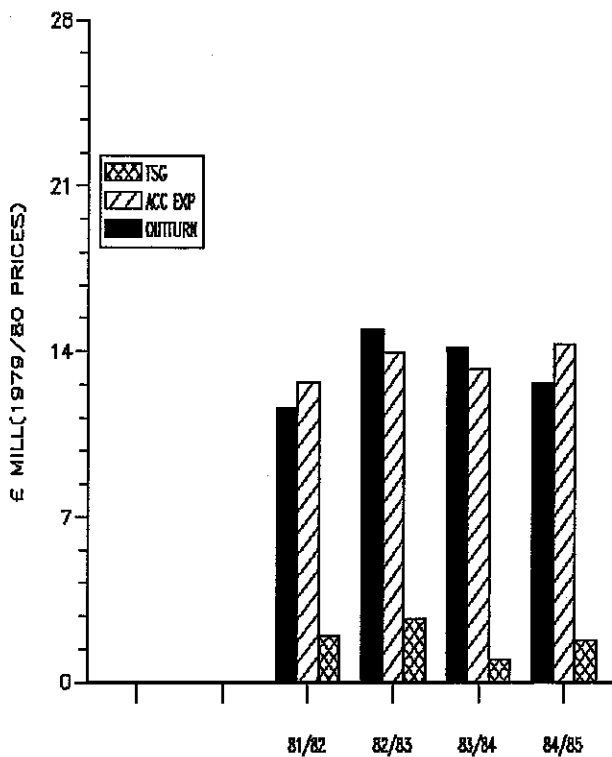
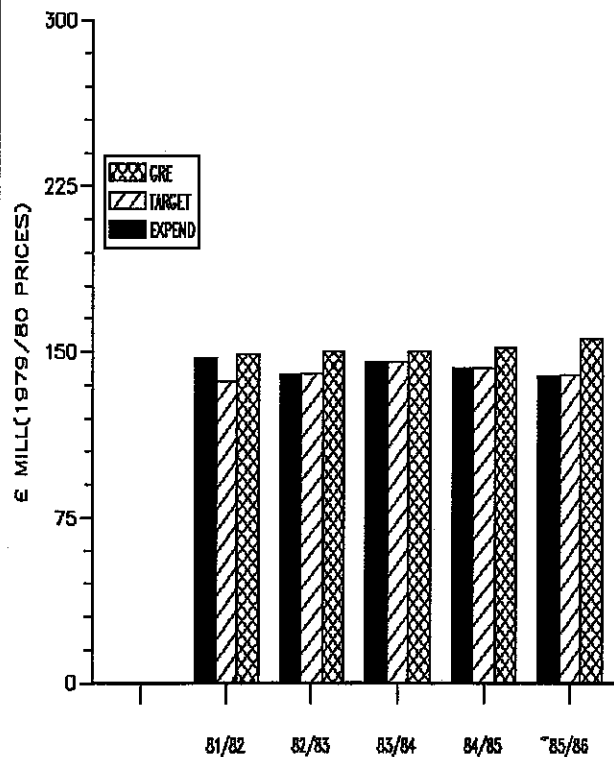
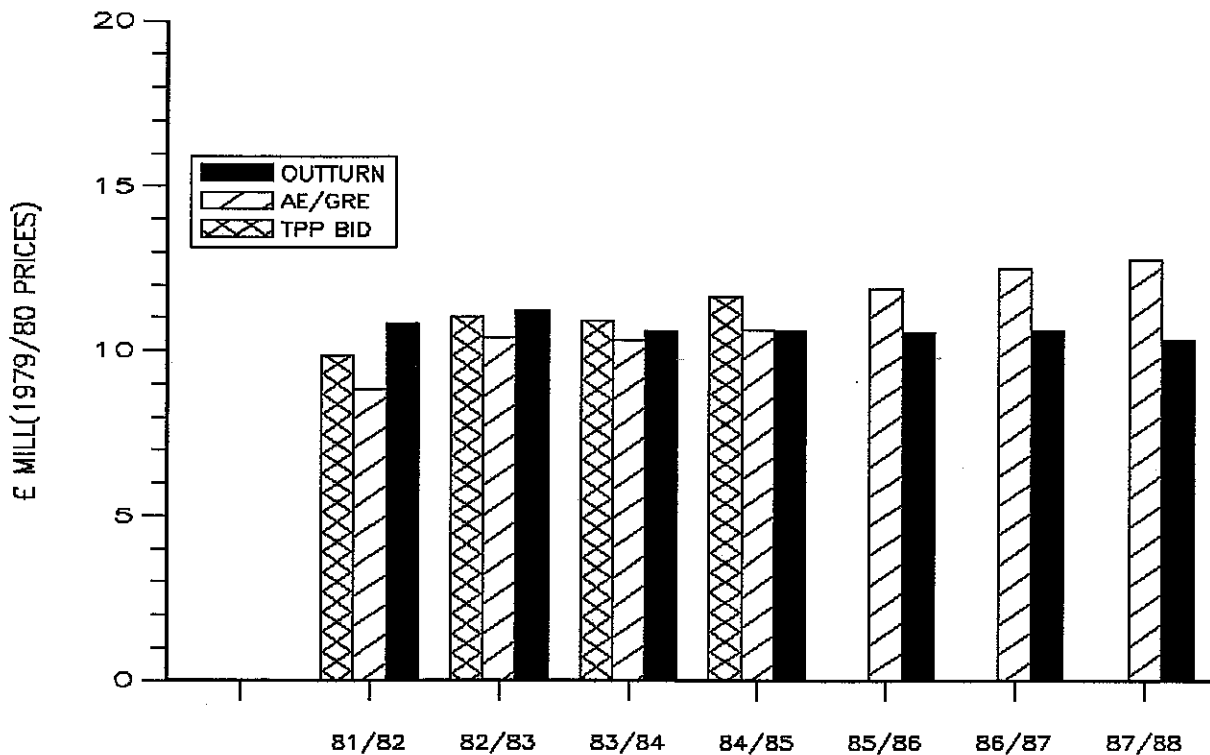


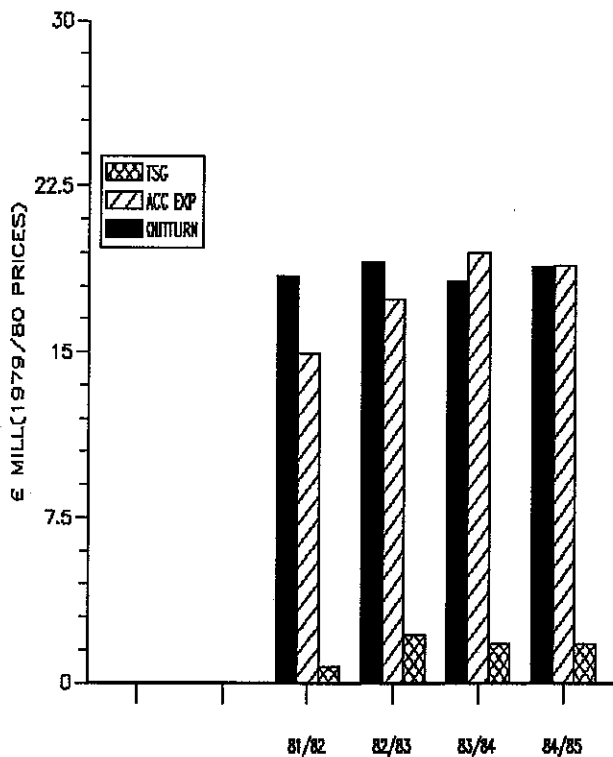
FIGURE 15c  
TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86  
NORFOLK CC



**FIGURE 16a**  
**ROAD MAINTENANCE: BID, PROVISION AND OUTTURN**  
**NOTTINGHAMSHIRE CC 1981/82-1987/88**



**FIGURE 16b**  
**LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85**  
**NOTTINGHAMSHIRE CC**



**FIGURE 16c**  
**TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86**  
**NOTTINGHAMSHIRE CC**

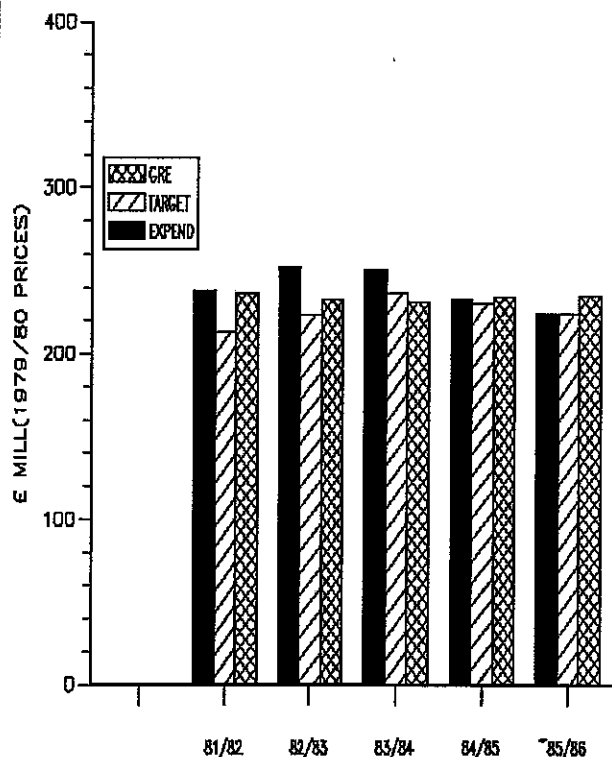


FIGURE 17a  
ROAD MAINTENANCE: BID, PROVISION AND OUTTURN  
OXFORDSHIRE CC 1981/82-1987/88

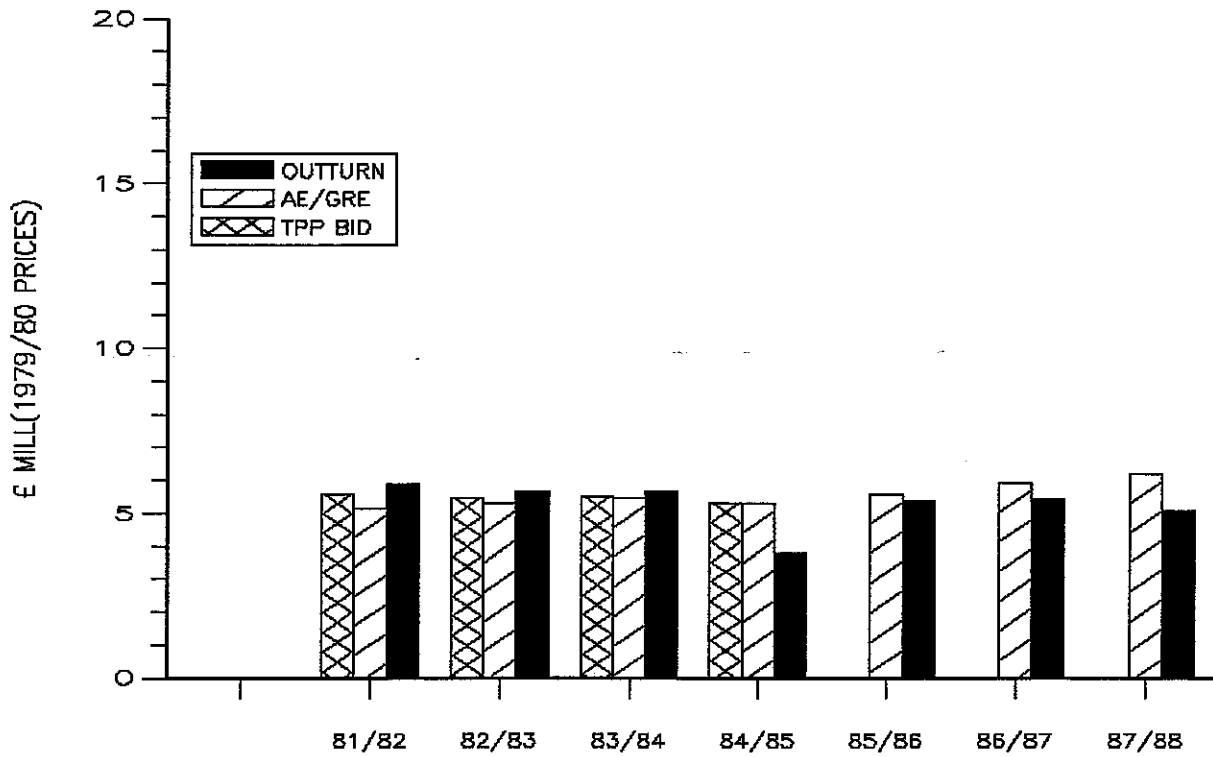


FIGURE 17b  
LOCAL TRANSPORT EXPENDITURE, PROVISION AND TSG 1981/82-1984/85  
OXFORDSHIRE CC

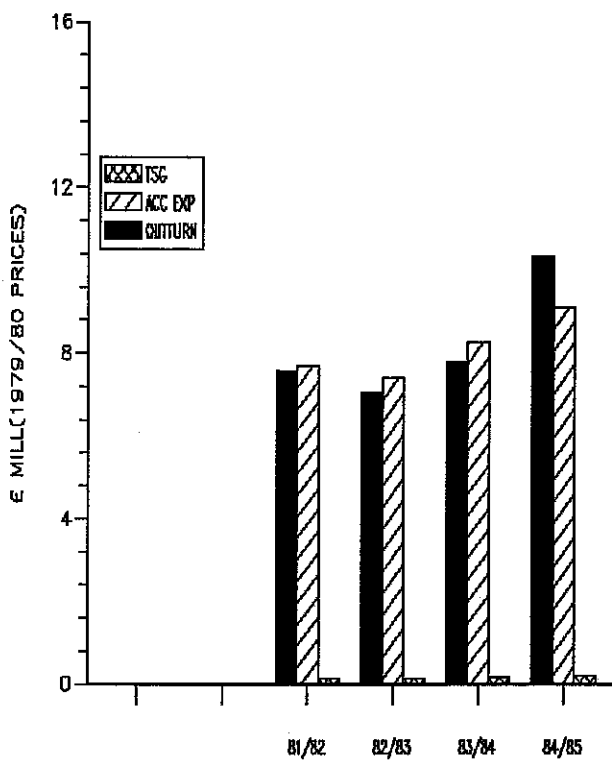


FIGURE 17c  
TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86  
OXFORDSHIRE CC

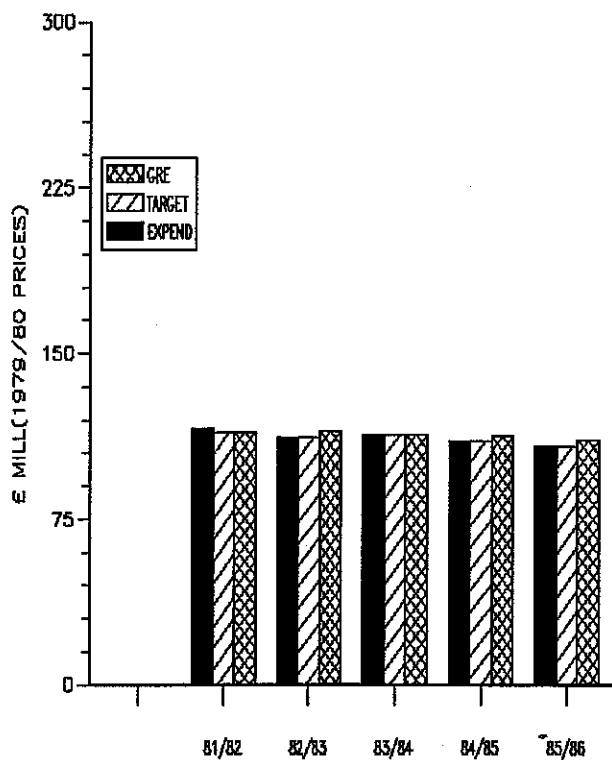




FIGURE 18a  
 TPP BIDS, ACCEPTED EXPENDITURE AND TSG  
 ENGLAND 1979/80-1984/85

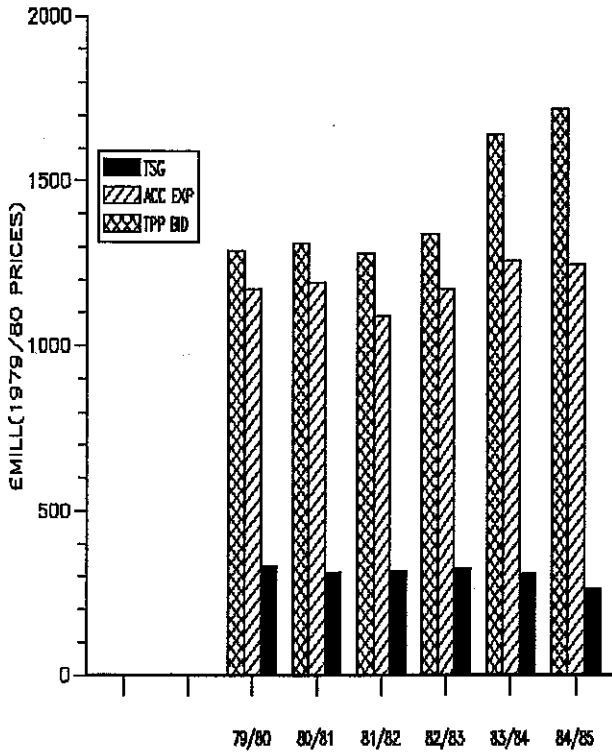


FIGURE 18b  
 TPP BID, ACCEPTED EXPENDITURE AND TSG  
 GLC 1979/80-1984/85

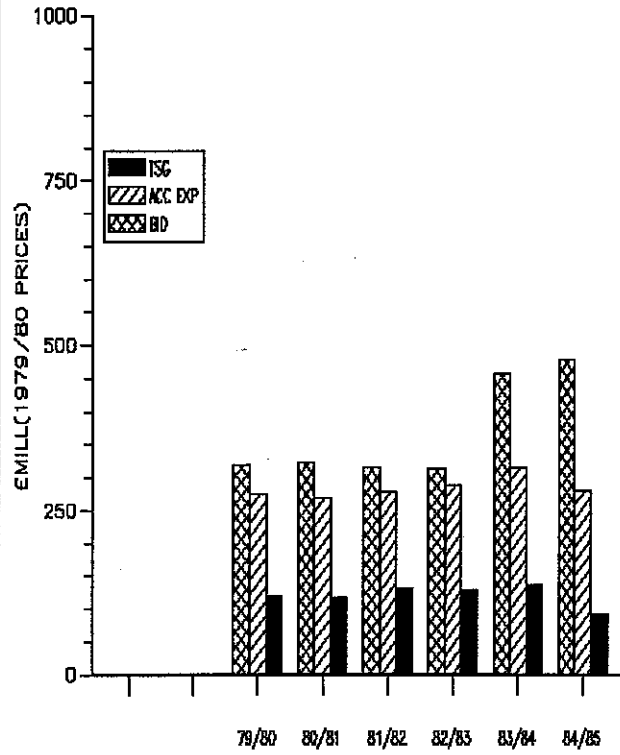


FIGURE 18c  
 TPP BID, ACCEPTED EXPENDITURE AND TSG  
 METROPOLITAN COUNTIES 1979/80-1984/85

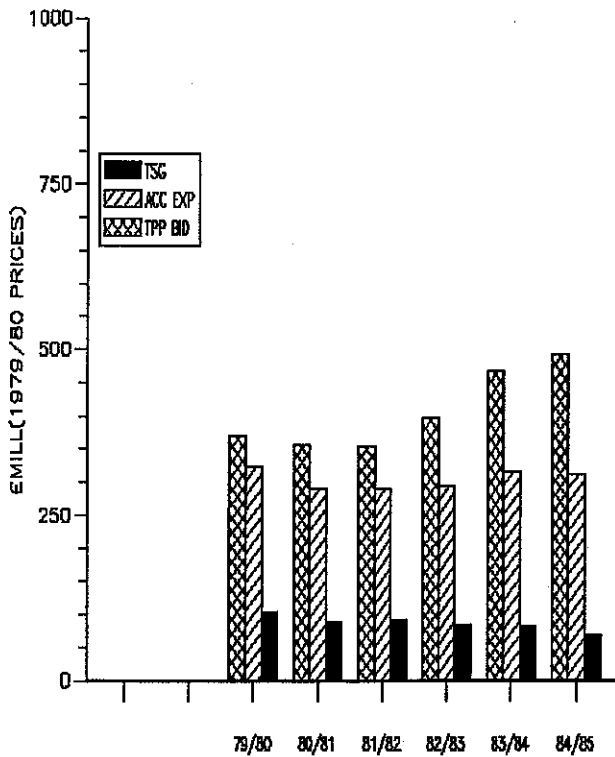


FIGURE 18d  
 TPP BID, ACCEPTED EXPENDITURE AND TSG  
 SHIRE COUNTIES 1979/80-1984/85

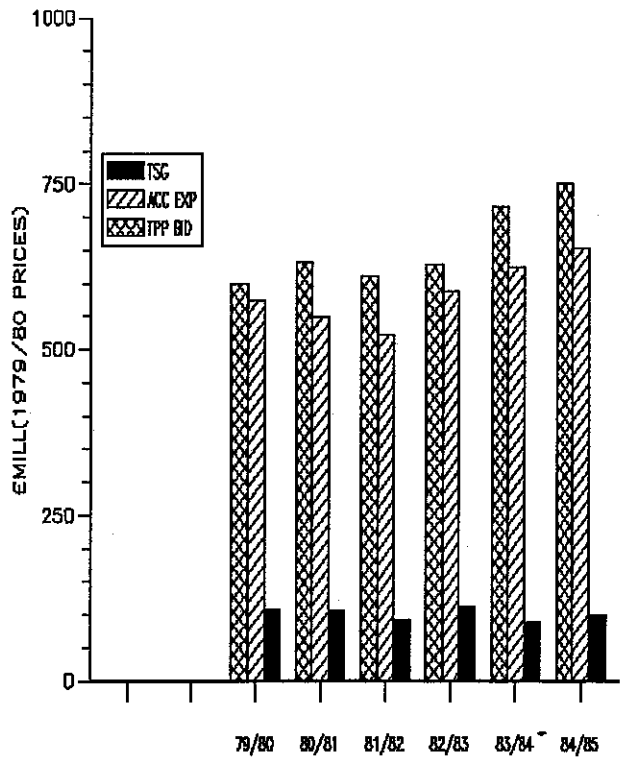


FIGURE 19a

TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86

ENGLAND

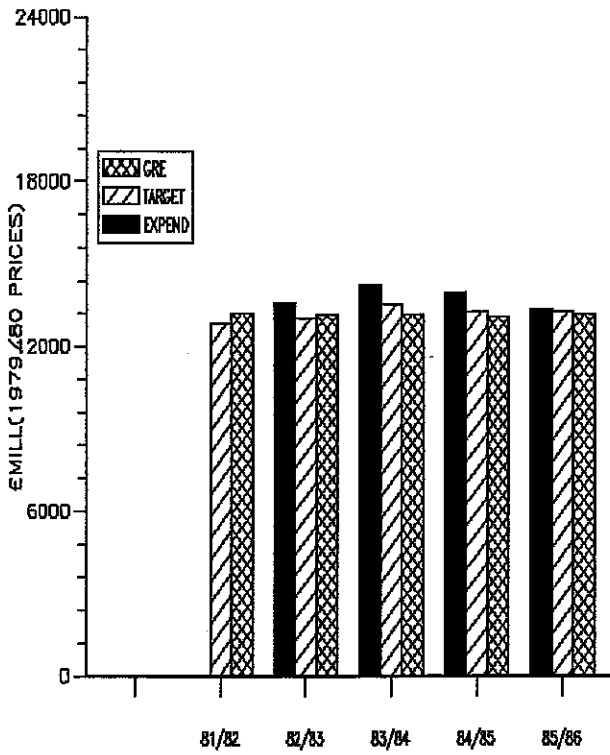


FIGURE 19b

TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86

GREATER LONDON COUNCIL

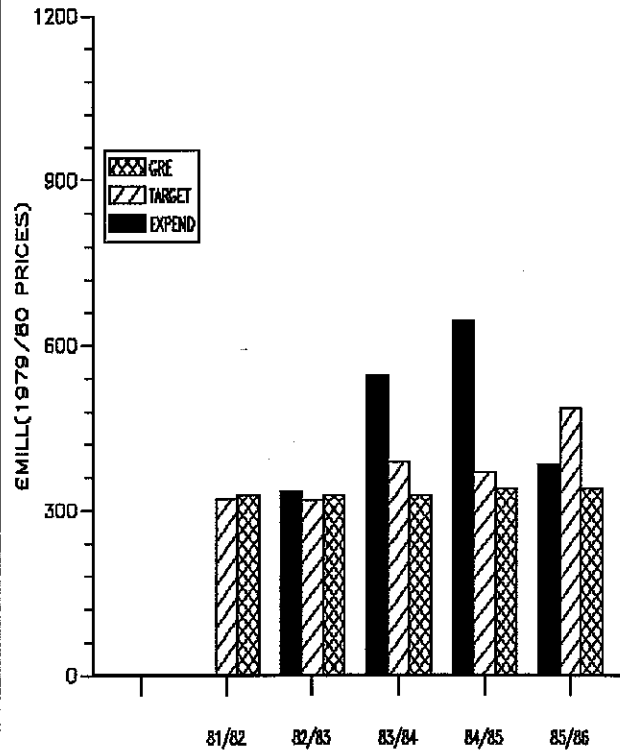


FIGURE 19c

TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86

METROPOLITAN COUNTY COUNCILS

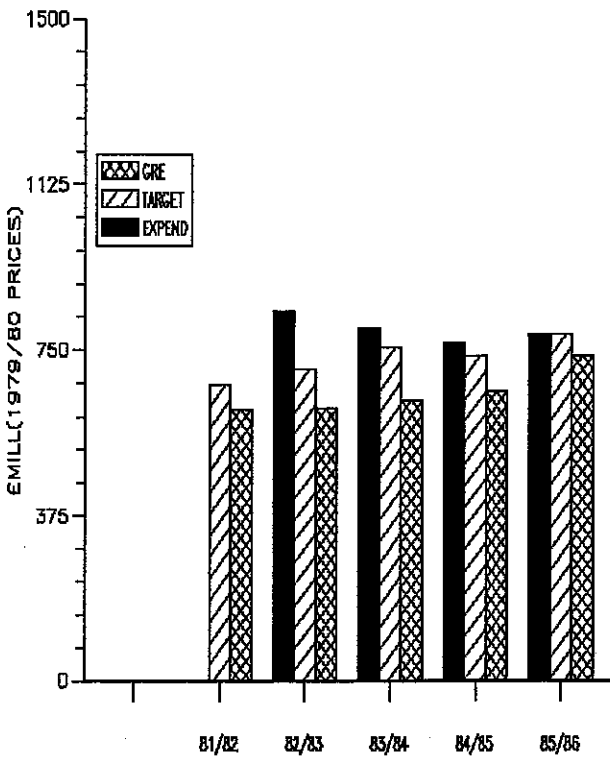


FIGURE 19d

TOTAL EXPENDITURE, TARGETS AND GRE 1981/82-1985/86

SHIRE COUNTY COUNCILS

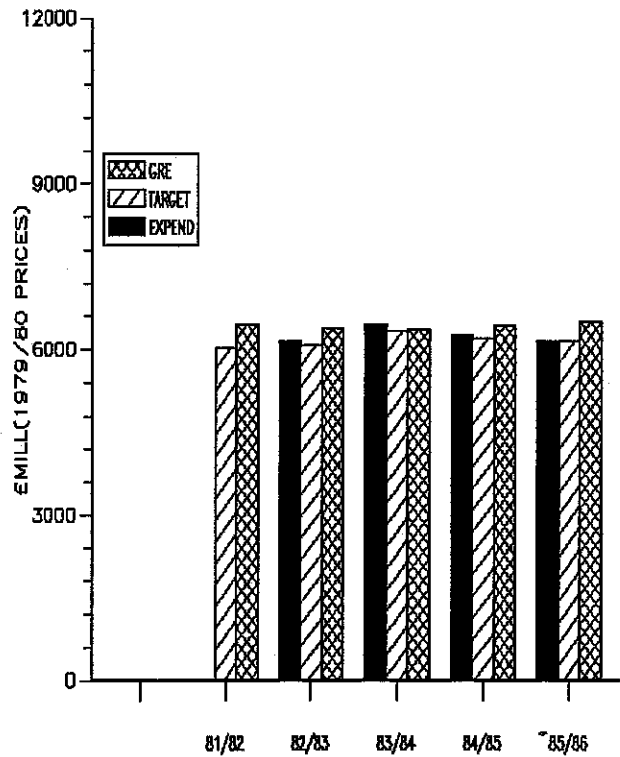


FIGURE 20a

ROAD MAINTENANCE EXPENDITURE 1979/80-1986/87

TOTAL SAMPLE SHIRE CCs

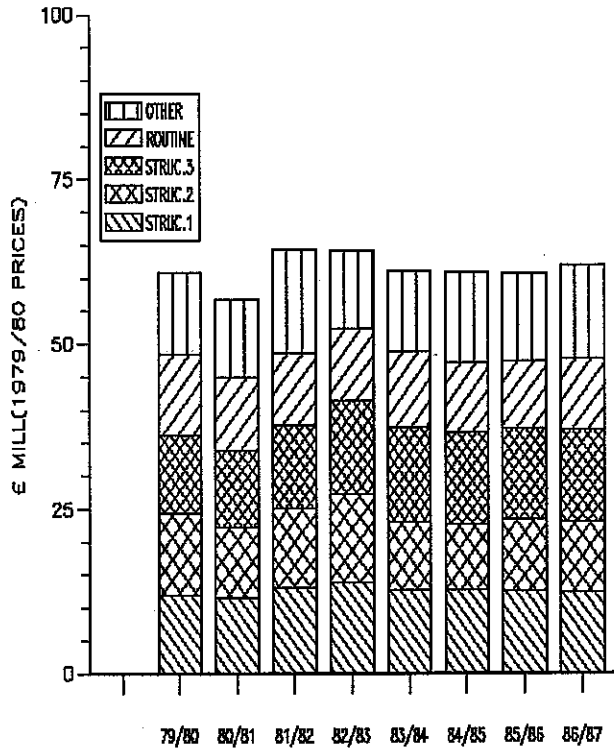


FIGURE 20b

ROAD MAINTENANCE EXPENDITURE 1979/80-1986/87

AVON CC

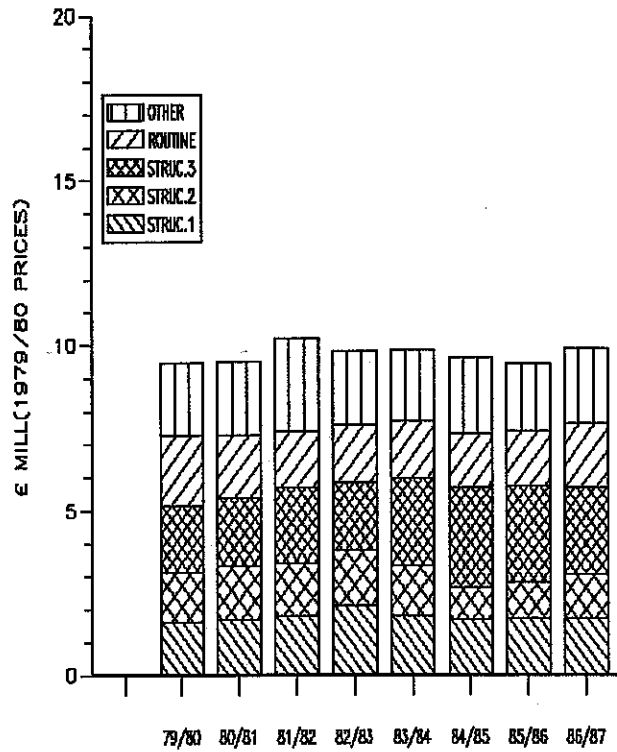


FIGURE 20c

ROAD MAINTENANCE EXPENDITURE 1979/80-1986/87

CHESHIRE CC

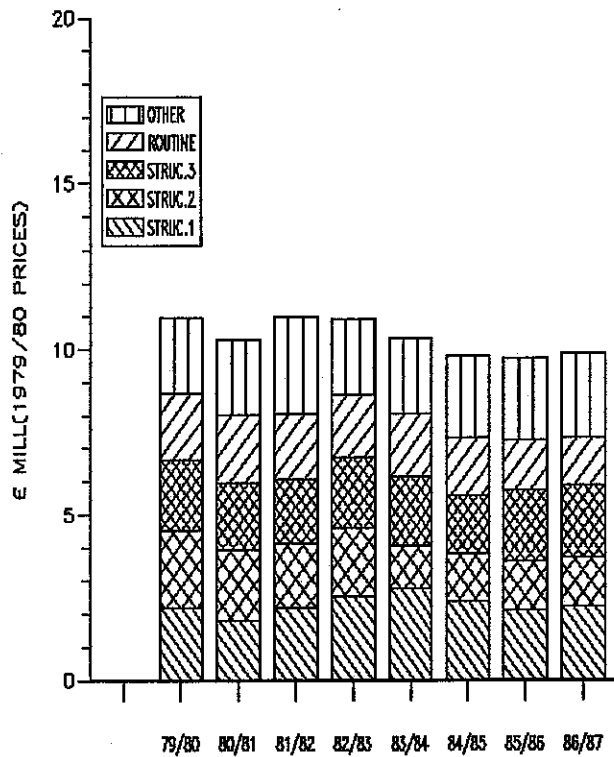


FIGURE 20d

ROAD MAINTENANCE EXPENDITURE 1979/80-1986/87

CLEVELAND CC

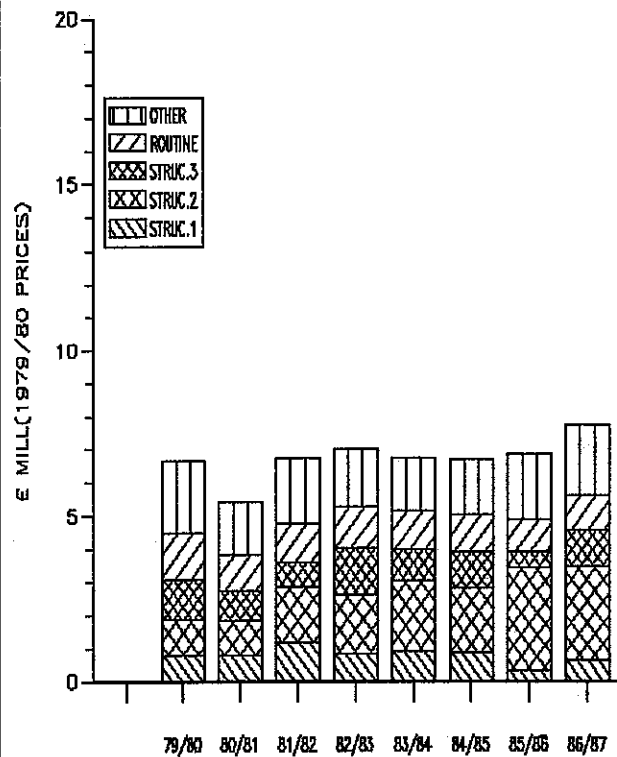


FIGURE 20e

ROAD MAINTENANCE EXPENDITURE 1979/80-1986/87

CORNWALL CC

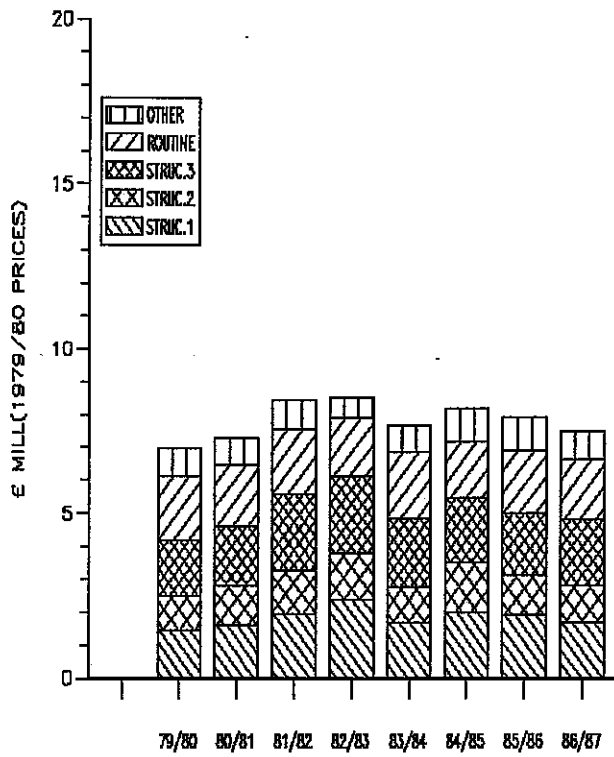


FIGURE 20f

ROAD MAINTENANCE EXPENDITURE 1979/80-1986/87

HEREFORD AND WORCESTER CC

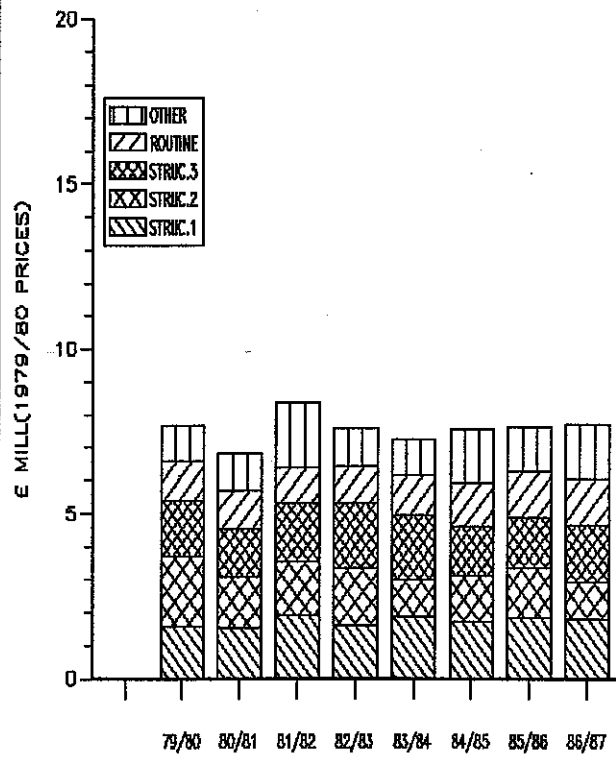


FIGURE 20g

ROAD MAINTENANCE EXPENDITURE 1979/80-1986/87

NORFOLK CC

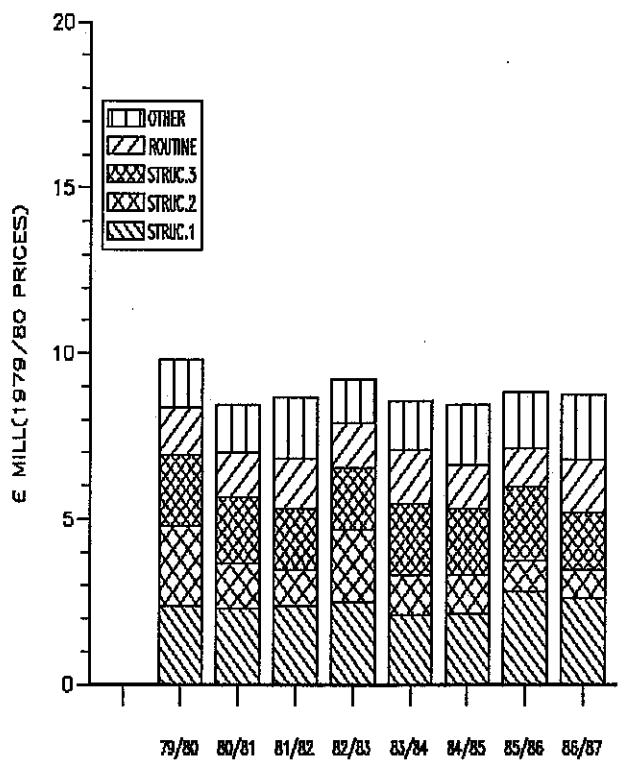


FIGURE 20h

ROAD MAINTENANCE EXPENDITURE 1979/80-1986/87

NOTTINGHAMSHIRE CC

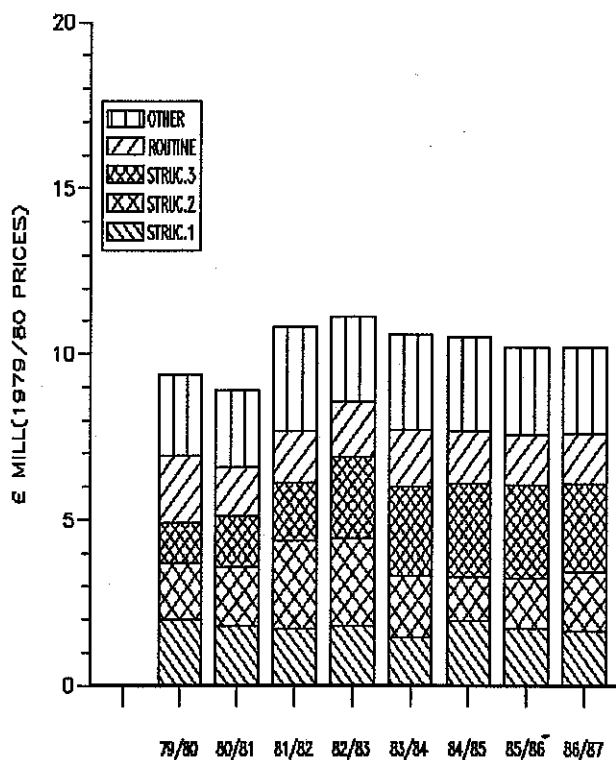


FIGURE 21a

ROAD MAINTENANCE: GRE AND OUTTURN 1985/86-1987/88  
MANCHESTER CITY COUNCIL

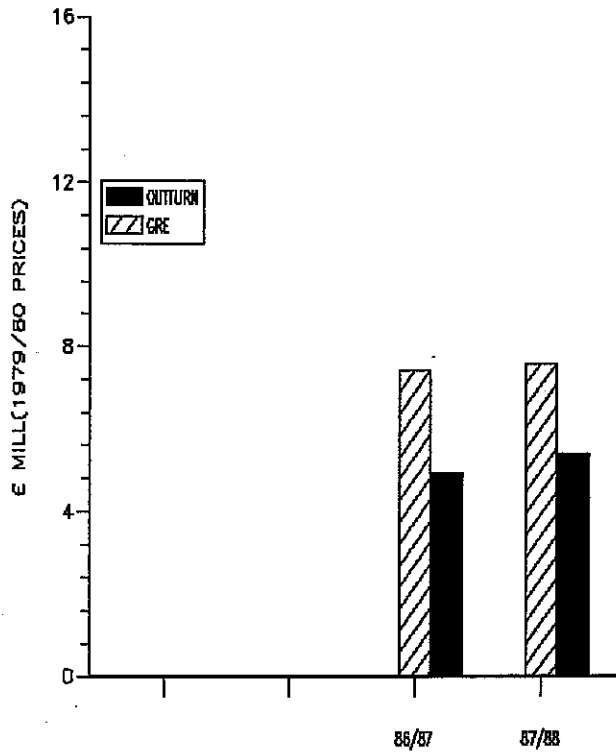


FIGURE 21b

ROAD MAINTENANCE: GRE AND OUTTURN 1985/86-1987/88  
SHEFFIELD CITY COUNCIL

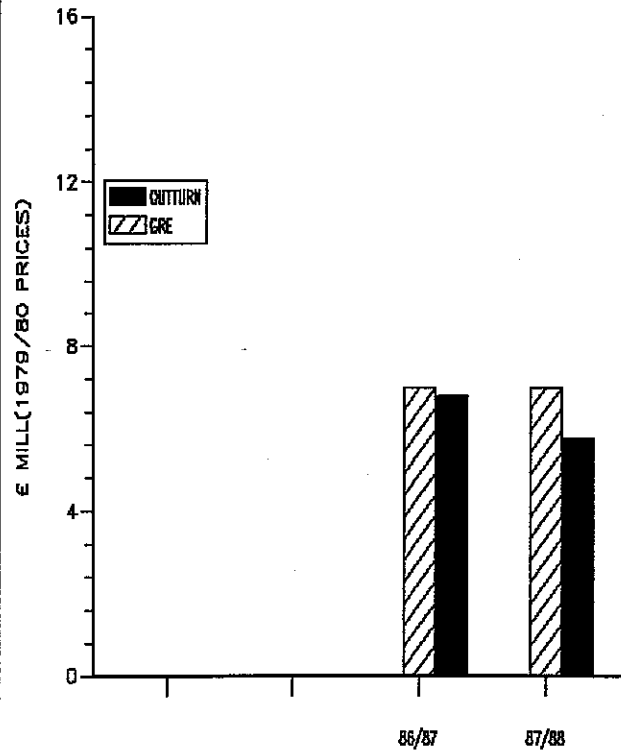


FIGURE 21c

ROAD MAINTENANCE: GRE AND OUTTURN 1985/86-1987/88  
BIRMINGHAM CITY COUNCIL

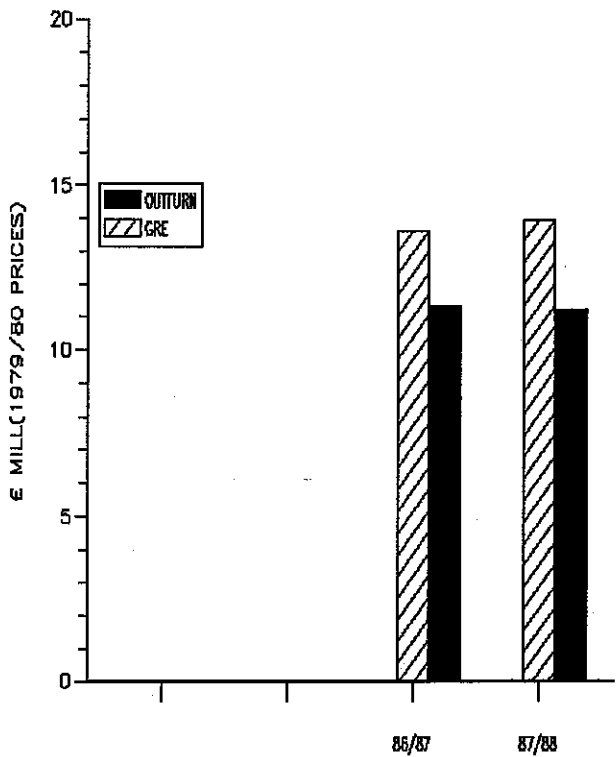
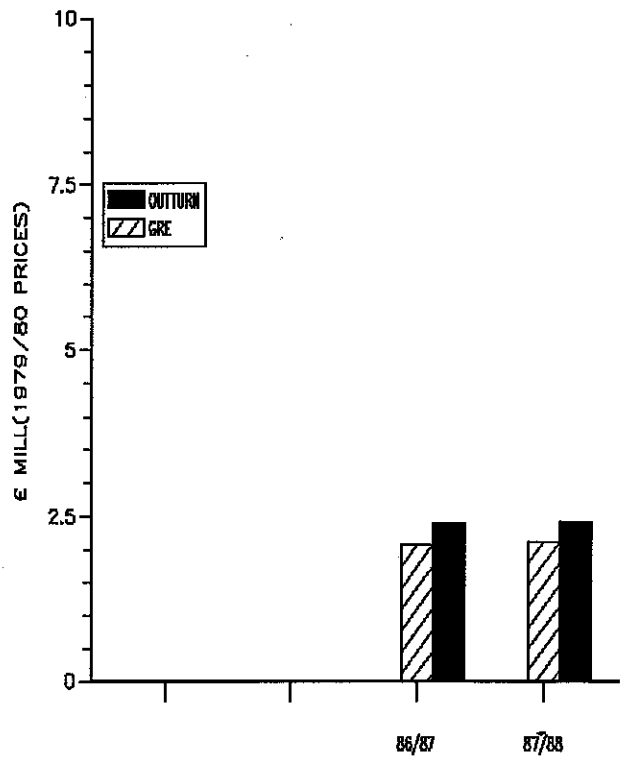


FIGURE 21d

ROAD MAINTENANCE: GRE AND OUTTURN 1985/86-1987/88  
SOLI HULL MDC



## NOTES ON FIGURES

### 1. Definitions

a) The following abbreviations are used throughout:

'AE': 'Accepted Expenditure' ie expenditure accepted for TSG Support up to 1984/85

'GRE': 'Grant-Related Expenditure' for current expenditure on maintenance

'Provision': expenditure provided for by the Government in annual public expenditure plans

'JPP Bid': sum of bids by local authorities for TSG support

'Target': expenditure target specified by the Government for total expenditure by local authorities under the system of targets and penalties operating from 1981/82 to 1986/87.

b) Figure 20 definitions are as follows (with categories from TPP Maintenance Outturn Forms):

'Struc 1': other structural maintenance (cats 5 - 9)

'Struc 2': major carriageway works (cats 1 - 2)

'Struc 3': surface dressing and patching (cats 3 - 4)

'Routine': cyclic maintenance and aids to movement (cats 10 - 14)

'Other': winter maintenance and street lighting (cats 15 - 16)

### 2. Prices

Expenditure data are deflated to 1979/80 prices using the DTp's Road Maintenance and Lighting Price Index (see Dept of Transport 1987b)

### 3. Sources

Figures 1 to 3: as indicated

Figure 4: H.M. Treasury (1979-88)

Figure 5: CIPFA Highway and Transportation Statistics;  
CIPFA Finance and General Statistics; Dept of  
Environment GRE 'Green Book'; data supplied by DTp;

Figures 6 - 17: Individual authorities' TPPs; DOE GRE  
'Green Book'; data supplied by DTp;

Figure 18: data supplied by DTp;

Figure 19: DOE GRE 'Green Book'; data on targets  
supplied by DOE; CIPFA Finance and General Statistics  
1981/82 to 1985/86;

Figure 20: individual authorities' TPP Maintenance  
Outturn Forms;

Figure 21: DOE GRE 'Green Book'; individual  
authorities' TPP Maintenance Outturn Forms.

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